

KANT'S METAPHYSIC OF EXPERIENCE

A COMMENTARY ON THE FIRST HALF OF THE
KRITIK DER REINEN VERNUNFT

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IN MATRIS MEMORIAM

'The writings of the illustrious sage of Koenigsberg, the founder of the Critical Philosophy, more than any other work, at once invigorated and disciplined my understanding. The originality, the depth, and the compression of the thoughts; the novelty and subtlety, yet solidarity and importance of the distinctions; the adamant chain of the logic, and, I will venture to add (paradox as it will appear to those who have taken their notion of Immanuel Kant from Reviewers and Frenchmen), the clearness and evidence of the *Critique of Pure Reason* . . . took possession of me with a giant's hand.'—COLERIDGE.

P R E F A C E

IT is a scandal to philosophical scholarship, and not least to German philosophical scholarship, that, more than a hundred and fifty years after the publication of the *Kritik of Pure Reason*, we still lack a commentary comparable with such works as that of Pacius on the *Organon* of Aristotle or even that of Adam on the *Republic* of Plato. Of all the authors who write about Kant's greatest work there is none who condescends to explain it sentence by sentence: Hans Vaihinger, who alone set out to do so, attempted to write a commentary, not only upon the *Kritik*, but upon all its previous commentators; and, as was but natural, he gave up this impossible task when he had proceeded but a little way. In the absence of a detailed commentary we have an inevitable welter of conflicting opinions about Kant's doctrines. More serious still, the unfortunate student and even, if I may judge from my own experience, many teachers of philosophy have the vaguest idea as to the meaning of Kant's words. There are sentences in which the reader is unable to decide to which of several nouns the relative and demonstrative pronouns refer, or which of two nouns is to be regarded as subject and which as object. In vain do we look for a reliable guide even in these elementary matters; and the plain fact is that most students find many passages, and too often crucial passages, to which they can attach no meaning at all. It is not surprising that they accept the opinions of others at second-hand without being able either to confirm or to criticise them.

It is not my aim to write a commentary of the type required: this is a task which should be reserved to a German writing for Germans. Nevertheless where the language is most difficult, and especially in such passages as the *Transcendental Deduc-*

tion and the argument of the Analogies, I have attempted to analyse Kant's thought almost sentence by sentence; and everywhere I have sought to give chapter and verse for my interpretations, so that the reader may be able to make an independent estimate of their truth.

A method of this kind is not without its disadvantages. If difficulties are dealt with in detail, the explanation is bound itself to be difficult; yet it must be remembered that a commentary on the *Kritik*, by the very nature of its subject matter, cannot be light reading; and its usefulness must depend on the extent to which it explains real difficulties, or at the very least explains where the real difficulties lie. Again, if this method is followed, Kant's many expositions of the Transcendental Deduction must impose a good deal of repetition on the commentator; but there is no way of understanding the argument except by studying its details; and any reader who believes he has mastered the details can confine his attention to Chapters XXX and XXXI, where I set out my general interpretation and criticisms. The chief disadvantage is not, I think, either the inevitable concentration on difficulties or the occasional repetitions, but the real danger that in the mass of minor problems the reader may fail to see the main lines of the argument. I can only say that I believe Kant's doctrine to be a whole, and humanly speaking a consistent whole; and I have sought throughout to interpret the details as elements in such a whole. I might have attempted merely to expound my own view of his central doctrine; but unsupported by details it could not be expected to carry conviction, and in any case my primary aim is not to advocate a particular theory, but rather to place the student in such a position that he can set aside the theories of others and read Kant intelligently for himself.

Every commentator must see his author from his own

point of view and subject to his own limitations, but his business, as I understand it, is to explain what the author has said, and not what he ought to have said. I am aware that two of the most interesting interpreters of Kant in this country—Edward Caird and Professor Prichard—have adopted a different policy; yet I cannot help thinking that they would have served us even better, if each of them had written two books, one to expound his own philosophy and another to expound the philosophy of Kant. The commentator must indeed tell us honestly when he finds an argument to be unintelligible or fallacious; but beyond that he need not go. Criticism, in short, should be subsidiary to exegesis.

If the critic finds the whole argument to be unintelligible or fallacious, only very special circumstances can justify him in writing a commentary at all. On the other hand, if he professes to find intelligible an argument which he manifestly does not understand, he can have no justification in any circumstances. Nevertheless he can be expected to exhibit the intelligibility of his author only within certain limits: he cannot be asked to meet all possible criticisms or to expound his author in the terms of current philosophical controversy. For my own part I believe Kant's argument to be intelligible, though I do not profess to understand all its ramifications. I have sought to expound his doctrine in his own terminology, since I am convinced it is only by becoming familiar with his terms that we can follow his argument. I am content if I can enable the reader to see the plausibility of the Critical doctrine, and so help him to assess its truth and to estimate the value of the criticisms to which it has been subjected. It is from no disrespect to such writers as Professor Prichard that I have not attempted to discuss the ultimate questions which they have raised in regard to the theory of knowledge. I am far from claiming that Kant's doctrine is the final truth

in these difficult matters, but I am sure it contains far more truth than is commonly believed, and I suspect that it contains more truth than many modern philosophies. Unless I considered Kant's doctrine to be of permanent importance, I should feel that I was wasting my time in writing about it at such length. A book of the type I have now written, if I could have read it when first I began the study of Kant, would have saved me from endless misunderstanding and much unnecessary labour; and I hope that I may have done something to make further progress more easy for my successors. Although I have confined myself to the first half of the *Kritik*, I hold, as Kant did, that this is intelligible in itself. When it is thoroughly mastered, the rest of the argument should offer no insuperable difficulty.

I will not attempt to acknowledge my obligations to previous writers on Kant. To do so would be to give a critical summary of what is called '*Kantliteratur*,' the value of which is by no means proportionate to its bulk. As in duty bound, I have made myself acquainted, in a greater or less degree, with all the English works on this subject and with most of the standard works in German. It is impossible for me to remember from whom I may have originally derived a particular interpretation, although I have made occasional acknowledgements in the body of the text. If the truth must be told, I feel compelled to say with H. J. de Vleeschauwer,¹ one of the best of modern writers on Kant, that I have found much of this literature '*inutile ou, ce qui est plus grave, trompeuse*.' In any case, as is not surprising, I have learned that Kant himself is incomparably his own best commentator; and I have sought throughout to rid myself of the theories of others and to

¹ *Le déduction transcendentale*, tome I, p. 26. It is my loss that I discovered this work only recently—it was published in 1934—and that the second volume, which will consider the actual text, is not yet to hand.

see his doctrine, so far as I may, through his own eyes. No one who understands the difficulty of this undertaking will expect, at the present stage of Kantian scholarship, to find a work free from errors, free even from serious errors. But there is one error I have never committed: I have never thought that any part of Kant's philosophy—I know nothing about his science—could justly be regarded as negligible.

For my translations I alone am responsible; but I have had before me the version of Professor Kemp Smith, and I hope that those who read Kant in English will have no difficulty in taking up my references. On very few occasions I have felt obliged to differ expressly from Mr. Kemp Smith's translations. It must not be thought from this that I fail to appreciate the services he has rendered in this field. He has given us, for the first time, an English translation which those who are unfortunately innocent of German may study with some hope of being able to follow the argument as Kant intended it. I am the more glad to acknowledge these services, because my own interpretation of the *Kritik* differs *toto coelo* from his, and because in view of the wide acceptance of his doctrines I may at times have expressed my disagreement with undue vehemence.

My references to Kant's works are, I think, self-explanatory. The first and second editions of the *Kritik* are referred to as A and B, and the original paging is given. The references in brackets are to the volume and page of the Berlin edition of Kant's works. Kant's lectures on Metaphysics (edited by Schmidt) I refer to as *Metaphysik*.

Perhaps I should offer an apology for using such a phrase as '*Kritik of Pure Reason*.' Having always disliked the word 'Critique' (whose French associations seem so alien to Kant), I yet lacked courage to revive the old English form 'Critick' and fell back upon a hybrid usage, the enormity of which I

did not grasp until too late. For this I can make no defence.

It only remains to offer thanks for the various forms of help that I have received.

My thanks are due especially to the Court of the University of Glasgow for the six months' leave granted me in 1932 in order to prosecute my work on Kant. During that period I completed the first draft of my book, and without such leave I doubt whether I should have been able to do so. My belief is that an extension of the American system of sabbatical years to the British universities would do more than anything else to increase the output of scholarly works in this country. I am particularly grateful that in this way I have been enabled to carry on the tradition of Kantian scholarship which is one of the glories of the University of Glasgow.

I must express my most grateful thanks to Mr. H. Barker (of the University of Edinburgh), and to Mr. D. R. Cousin and Miss M. J. Levett, my colleagues in the department of Logic, all of whom read the first draft of my book and offered criticisms which have saved me from many pitfalls; to Dr. Heinrich Cassirer for help in regard to the German text; to Professor J. H. Muirhead for reading the final version in typescript and for making valuable suggestions; to Miss Lilian Mattingly for typing so much of my not too legible handwriting; to my colleagues Mr. George Brown and Mr. D. R. Cousin for help in the correcting of proofs; to Miss Ursula Todd-Naylor for compiling the general index; and to Miss Elizabeth Laughland for checking some of my many references and for compiling the index of annotated passages.

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KANT'S METAPHYSIC OF EXPERIENCE

CHAPTER I

INTRODUCTION

§ 1. *Kant and his Critics*

It is an irony of fate that Immanuel Kant, who declared the *Kritik of Pure Reason* to be intelligible only to those who understood it as a whole, should be beset by commentators who maintain that there is no whole to understand.

The contrast between the two contentions is striking. It seems hardly possible to find a middle way between them. On the one hand we have the doctrine, widely accepted to-day, that the *Kritik* is a mosaic of passages dating from different times and externally connected with one another, so that in the words of a distinguished modern commentator Kant 'flatly contradicts himself in almost every chapter'.¹ On the other hand we have Kant's indignant repudiation of such a view. 'In every writing, above all when it proceeds as a free discussion, it is possible to ferret out apparent contradictions, by comparing together isolated pages torn from their context. Such apparent contradictions cast a prejudicial light upon it in the eyes of those who depend upon criticism at second hand, but they can be easily solved by any one who has mastered the idea as a whole'.² Of this Kant was so convinced that he wrote the *Prolegomena* only in order that he might help his readers to master the idea as a whole.³ He thought that when he had done so, the difficulty of understanding him would disappear, and that those who still found him unintelligible would be well advised to employ their

¹ Kemp Smith, *Commentary*, p. xx.

² B XLIV.

³ *Prolegomena*, Vorwort (IV 263).

talents in sciences other than metaphysics, a subject which after all it is not necessary that everybody should study.

§ 2. *The Patchwork Theory*

That the *Kritik* is a mosaic or patchwork is supposed to be obvious throughout, but to be specially obvious in the Transcendental Deduction as set forth in the first edition. This Deduction has been analysed into a large number of separate strata both by Professor Adickes and by Professor Vaihinger. It seems to cause no qualms that parts regarded as late by the former are asserted by the latter to be early, and *vice versa*.

In this matter there are naturally differences of degree. Adickes, in his edition of the *Kritik*, has propounded the theory that Kant's procedure was to insert passages into an original nucleus. This theory he has worked out in detail for the whole book. I believe his general view to be unproved, although not unreasonable, and his account of the details to be hazardous and even fanciful. Nevertheless although he is prepared to speak of the *Kritik* as a mosaic, it would be a mistake to attribute to him the patchwork theory in its extreme form. For that we must go to Vaihinger, who has dealt in full detail only with the Transcendental Deduction.¹ Vaihinger's view of the Deduction has been made familiar to English readers in the *Commentary* of Professor Kemp Smith;² and it is this view which I have in mind when I speak of the patchwork theory, although some of my criticisms apply to the view of Adickes also.

I have dealt with Vaihinger's theory more fully elsewhere,³ and can here express only a dogmatic and summary opinion.

In his argument Vaihinger ignores two fundamental facts,

¹ *Die Transcendentale Deduktion der Kategorien* (Niemeyer, Halle, 1902).

² Professor Kemp Smith generally follows the divisions of Adickes elsewhere, and it is difficult to reconcile this attitude with his complete abandonment of Adickes in favour of Vaihinger, when he deals with the Transcendental Deduction.

³ *Proceedings of the Aristotelian Society*, Vol. XXX, vii (1930).

both clearly stated by Kant, (1) that the Deduction has two sides, an objective and a subjective, and (2) that it contains two expositions, a provisional and a systematic. He then chooses one test, and one only,¹ which is, roughly, the account given of imagination; and by means of this test he goes over the Deduction as with a comb. Since imagination is to be found only on the subjective side of the Deduction, one expects first of all that this method will divide up the Deduction into a subjective and an objective deduction. This is what actually happens. One expects also to find two objective deductions (a provisional and a systematic), and two subjective deductions (a provisional and a systematic)—four in all. We do get a provisional and a systematic subjective deduction; but owing to the fact that in the systematic exposition the subjective and objective sides are closely combined, the whole of the systematic exposition is regarded by Vaihinger as one stratum. In the provisional exposition, on the other hand, points which should be conjoined are dealt with in separation (a fact to which Kant himself draws attention), and this enables Vaihinger to extract from it two objective deductions, so that our expectations are not wholly disappointed. Having decided that the subjective deduction is late and the objective deduction early, he concludes that the provisional subjective deduction is very late, and one of the provisional objective deductions very early. Thus he gets four strata, and the ingenuousness of his method is concealed from himself and his readers by the fact that he can, not unnaturally, find elsewhere preparatory passages which will fit in with this classification. With amazing self-confidence he proceeds to divide up these main strata into substrata, which he affects to put in a temporal order regarded as at least probable. Finally he examines, on the same principles, some of Kant's loose jottings (at that time almost entirely undated), and succeeds, as is only to be expected, in discovering passages

¹ *'das einzige und entscheidende Unterscheidungsprinzip.'* This admission itself seems to me enough to put the whole theory out of court.

which he can fit into his four strata. This he regards as a confirmation of his argument.

To my mind the whole discussion is a monument of wasted ingenuity, rendered the more pathetic by the learning and clarity of the exposition.

§ 3. *Extreme and Moderate Views*

No one need deny that Kant's mind, like that of other philosophers, worked on different levels; that he thought out some problems more fully than others; and that he was capable of solving one problem without at first realising all its implications in relation to other problems. Nor need one deny that the notes which he had by him as he brought the *Kritik* into its final form were on different levels of reflexion, and may have influenced the *Kritik* as we have it to-day. I think myself that the inequalities in Kant's thought have been grotesquely exaggerated, and I see no reason to suppose that he ever made use of any notes without that re-writing which is mentioned in the account of his method given by Borowski.¹ I do not wish, however, to argue either of these points, and I recognise that here there may well be differences of opinion. What I wish to protest against is the doctrine that Kant took isolated and contradictory notes, dating from different periods, and joined them together in a purely external manner. If there are any who think that this description exaggerates the doctrine of Vaihinger, I can only ask them to re-read what he has written in his monograph on the Transcendental Deduction.²

I venture to hold both that the general theory of Vaihinger is incredible and that its detailed application is demonstrably false. The finding of contradictions in Kant had become with him almost an obsession.³ This is seen to some extent even in his *Commentary*, which derives its immense value

¹ (IV 579).

² See especially pp. 2 (= 24) and 24 (= 46).

³ Compare Adickes, *Kant und die Als-ob-Philosophie*, p. 62. 'Vaihinger practises the cult of contradiction in a way which works to death a principle in itself justifiable. He creates contradictions without reason.'

from his erudition and power of analysis rather than from his capacity to enter into another man's mind.¹ When he passes to the more subtle task of literary criticism, to the consideration of Kant's method of composition, his weakness shows itself in the crudest possible form.

It is not my experience of the human mind that inconsistencies of thought and expression are always, or even generally, due to differences in the date of writing. Nevertheless this is a possible explanation, and it may be held in a reasonable form, especially when we are considering a work of great length like the *Kritik*. What so many people fail to realise is the immense gap between holding such a general theory and attempting to determine on this basis the order in which the work was composed. Where the general theory is propounded in a more or less reasonable way, as it is by Adickes, there is plenty of room for extravagance in the working out of the details. Even Vaihinger is able to recognise that Adickes' account of the Transcendental Deduction is 'highly artificial', 'like a system of cycles and epicycles'; and I am content to repeat his criticism.² It is sufficient to say that Adickes distinguishes seven different deductions, in almost every one of which he finds interpolations from the others, and these interpolations have themselves further interpolations as well as 'harmonising passages' intended to give an appearance of unity to the whole. In detail, as well as in principle, Adickes' account seems to me less unreasonable than that of Vaihinger; but I can only stand amazed at his audacity in the application of a method which depends entirely on internal evidence and is by its very nature dubious and uncertain.

It must be remembered that the burden of proof lies not upon those who treat the *Kritik* as the unitary work which it professes to be, but upon those who claim to distinguish the different strata of which it is composed. If I attempted

¹ Adickes takes the same view (op. cit., p. 57), and even applies to Vaihinger the lines

'Denn hat er die Teile in seiner Hand,
Fehlt, leider ! nur das geistige Band'.

² See *Die Transcendentale Deduktion*, p. 4 (= 26).

to refute in detail the complicated and conflicting theories of Vaihinger and Adickes, I should only distract attention from the doctrines of Kant, which it is my purpose to expound. It will be a sufficient refutation of the patchwork theory in its extreme form, if it can be shown that the *Kritik*, and especially the Transcendental Deduction, is an argument—not necessarily a valid argument, and certainly not a clear argument, but one which might be set forth by an able thinker breaking new and difficult ground. That, to the best of my ability, is what I hope to do.

§ 4. *Consequences of the Patchwork Theory*

This question cannot be regarded as a biographical problem of no importance, since it has serious consequences both for teaching and for exposition.

The youthful mind is too intelligent to suppose that a work composed in this casual way is worth the immense labour which is necessary to understand it; and it will not be deceived for long by the encomia pronounced on the advantages of combining so many contradictory doctrines within the compass of a single work. If the patchwork theory is true, the study of the *Kritik* ought to be removed from the philosophical curricula of the universities.

For exposition the consequences seem to me even more serious. It is not merely that the theory, so far from shedding light on the obscurities of Kant, shrouds them in impenetrable gloom. To my mind it makes further criticism impossible.

The essence of criticism, and the only way in which we can penetrate more deeply into the mind of an author, is to check our interpretation of one passage in the light of another, until gradually the whole becomes clear.¹ If our interpretation is contradicted by other passages, we are compelled to reconsider it, and so we may come nearer the truth. On the patchwork theory there is no such compulsion,

¹ Adickes (*Kant und die Als-ob-Philosophie*, pp. 10 ff.) has some wise words on this subject.

and the way is open for purely subjective impressions.¹ Indeed if an interpretation is contradicted by what Kant says elsewhere, the commentator merely notes a further confirmation of the patchwork theory; and the number of contradictions which he can find is limited only by his capacity for misunderstanding Kant.

Another unfortunate, but inevitable, consequence of the theory is the atmosphere of condescension with which the name of Kant is now surrounded. This is most conspicuous, not in Kant's professed opponents, but in those who claim to set forth the meaning and worth of the Critical Philosophy. Well might Kant apply to himself the expression he puts into the mouth of Leibniz: 'I can defend myself against my enemies, but God save me from my friends.'²

§ 5. *Kant's Own View of the Kritik*

The patchwork theory is an attempt—although, in my opinion, a mistaken attempt—to solve a real problem, the problem of the *Kritik's* difficulty and obscurity. This has been a continuous subject of complaint from the time of publication until now.

On this matter the opinion of Kant himself is at least worthy of being examined. He fears that his attempt to solve the problem of Hume will meet with the same fate which—in spite of the subtlety and attractiveness of Hume's style—greeted the original statement of it. It will be wrongly criticised, because it is misunderstood; and it will be misunderstood because, though people may be prepared to read the pages through, they will not take the trouble to think the thought through. And the reason why they will not take this trouble

¹ Kemp Smith, for example, habitually distinguishes what he calls 'the true Critical teaching' from the doctrines propounded by Kant. Even the fact that the doctrine of pure intuition is consistently held by Kant and regarded by him 'as an integral part of his system does not, of course, suffice to render it genuinely Critical' (see *Commentary*, p. 40—the italics are mine).

² *Streitschrift*, 2. Abschn. (VIII 247).

in the case of the *Kritik* is that the work is dry, obscure, diffuse, and contrary to all accepted ideas.¹

For its dryness Kant does not think he need apologise, at any rate to philosophers. He does not claim to possess the stylistic gifts of a Hume or a Mendelssohn, but he believes that he could have made the *Kritik* a more popular work had he been willing to sacrifice thoroughness to popularity. The necessity for thoroughness is imposed upon him—be it noted—by the necessarily organic character of a *Kritik of Pure Reason*, such that every part depends upon the adequate treatment of every other part. The difficulties which many found even in the *Prolegomena* made him less confident of his capacity for lucid exposition,² but there is no doubt that the dryness of his style was a matter of deliberate choice, as he explains in the first edition.³ He preferred the scholastic to the popular style, because if he had enriched his argument with illustrations and examples, its length—and it is long enough in any case—would have made it difficult for the reader to grasp the argument as a whole. His choice is made in the interests of science,⁴ and it is of fundamental importance that he should not seem to persuade the reader by rhetoric instead of convincing him by argument.⁵ This is a subject upon which he has long reflected, and he is certainly not inventing excuses to explain an unexpected failure.⁶

The diffuseness⁷ of the work he seems to regard partly as a weakness of his own, but mainly as imposed upon him by the nature of his subject, by the necessity of entering into many details if the exposition is to be an organic whole. So far as it belongs to the nature of the subject, he regards it as an actual advantage to his argument, although a disadvantage

¹ *Prol. Vorw.* (IV 261).

² B XLIII.

³ A XVII ff. Schopenhauer, a good judge, called it a '*glänzende Trockenheit*'.

⁴ *Prol. Vorw.* (IV 262).

⁵ *Nachlass* 5031 (XVIII 67).

⁶ Compare letter to Herz (X 230) and *Log. Einl.* VIII (IX 62).

⁷ The word '*Weitläufigkeit*' seems to imply primarily extensiveness and intricacy; the suggestion of verbosity is secondary, and may not be implied by Kant at all. Compare A 98.

to his book. He admits, however, that it is a source of obscurity, since the reader finds it difficult to grasp the main points in the argument, and so to get a comprehensive idea of the whole.

On this matter Kant is precisely right, and the difficulty is at least partly due, as he suggests, to his method of exposition. Especially to the beginner, the *Kritik* appears as an endless string of equally difficult, and for all he knows equally important, sentences; so that the main turning points of the argument, and the crucial sentences which demand special scrutiny, are lost to him. With more attention to the method of exposition this could have been avoided.

To more fundamental complaints of obscurity Kant is not sympathetic. He even says, somewhat unkindly, that complaints of obscurity are often merely a covering for the laziness or incompetence of the critic; and he hopes that his obscurity may help to prevent the ignorant from talking confidently about problems in metaphysics, as they would never dare to do in other sciences.¹ He is prepared to admit, however, that the many misunderstandings into which even acute thinkers have fallen are 'not perhaps without his fault';² yet the deficiencies which he admits belong only to the method of exposition, and not at all to the system or the arguments he has expounded.

To what does Kant ascribe these defects of exposition? To the fact that although the *Kritik* was the product of twelve years' reflexion, it was composed³—I use the word in a neutral sense—hurriedly in four or five months, with the greatest attention to the content, but with little care for the method of exposition.⁴ The statement that it was composed in four or five months does not necessarily imply that it was entirely re-written, although a parallel statement⁵ that it 'was brought to paper in its present form in only a short time' distinctly

¹ *Prol. Vorw.* (IV 264). ² B XXXVII. ³ 'zu stande gebracht.'

⁴ Letter to Mendelssohn (X 323). Compare letter to Garve (X 316) and letter to Biester (X 255). These are all cited in (IV 585), and two of the passages are translated by Kemp Smith, *Commentary*, p. xix.

⁵ (X 255).

suggests re-writing, and tends to confirm Borowski's account of Kant's usual procedure. It would, however, be more than surprising if 'the greatest attention to the content' had not disclosed to Kant the glaring contradictions alleged by Vaihinger.¹

What was the reason for Kant's haste and for his neglect of considerations of style? A very good one, which he repeats again and again.² He was beginning to grow old, and he had all the rest of the Critical Philosophy still to expound. With amazing industry he poured out in the next few years an immense mass of Critical writings, but even so his system was not completed, and his last great work, now known as the *Opus Postumum*, had to be left unfinished.

Kant's excuse is more than adequate. If he had attempted to write as some people would have liked him to write, the Critical Philosophy would never have been published at all.

§ 6. *The Novelty of Kant's Doctrine*

Kant is willing to admit that some of the alleged difficulty and obscurity of his writing is due to defects of exposition, but he believes that it is mainly due to the novelty of his theories, to the fact that they contradict accepted ideas.³ This is the point in which he compares his own experience to that of Hume, whose critics, he believes, consistently failed to understand what he was trying to say.⁴

Kant has no use for those philosophers whose only philosophy is the history of philosophy, and who are therefore opposed to all new ideas, although they maintain that these new ideas have all been expressed before.⁵ Such philosophers ought by now to be on Kant's side, and perhaps to a certain extent

¹ Note also that in a letter to Herz of the same period (X 252) Kant says that the *Kritik* is the first of his works in which there was nothing that he wanted to alter (apart from a few additions and explanations). Yet his earlier works have not so far been exhibited as a mass of contradictions. For a description of Kant's method of scrutiny, see another letter to Herz (X 127).

² Compare B XLIII.

³ *Prolegomena* (IV 261-2).

⁴ *Ibid.* (IV 258).

⁵ *Ibid.* (IV 255).

they are. But this advantage, if it be an advantage, is more than counterbalanced by the fact that so much of Kant's terminology, which at the time had an accepted and precise meaning, has been forgotten. Even a slight acquaintance with the writings of Baumgarten and G. F. Meier, and especially with Kant's own lectures on Logic and on Anthropology, is a great help for the study of the *Kritik*; and in its absence many points seem obscure and pedantic which at the time must have been regarded as obvious.

In the main Kant's views are still as paradoxical, and as contrary to accepted ideas, as they were when they were written. It is still possible to approach Kant's works with prejudices—whether well- or ill-grounded makes little difference—and to suppose that one can criticise his arguments on the basis of a knowledge which one believes oneself to possess, although it is precisely this knowledge which Kant wishes to call in question. If we do so, he maintains, we shall make no progress. We shall see in the *Kritik* only what we already know, because the words in which it is expressed are similar to those we commonly use; but everything in it will seem utterly distorted and nonsensical, it will appear to be written in a sort of double Dutch. And the reason for this will be that we are reading our own thoughts into it, and not following the thought of the author.¹

I believe that in this we are getting nearer to the deeper reasons for the seeming obscurity of Kant. Not indeed that we can ascribe that obscurity, by a sort of Copernican revolution, entirely, or even mainly, to the prejudices of his critics and their unwillingness, or incapacity, to attain an inside view of his philosophy. The main explanation lies in the fact that the *Kritik* is opening up a world of altogether new ideas; that Kant is undertaking the most difficult task ever undertaken on behalf of metaphysics;² and that the human mind does not, in an enterprise of this kind, detect at first the shortest path towards its goal.³ Kant has had a new vision

¹ *Prologomena*. (IV 262).

² *Ibid.* (IV 260).

³ *M.A.d.N. Vorrede* (IV 476 n.).

of reality, and in such a vision there must always be difficulty for those to whom it is imparted, and an element of struggle and effort even for the seer himself.¹

§ 7. *Novelty and Obscurity*

Philosophy is a study to which many different types of mind contribute, and all of these may have their own value. The gift of clarity—a great gift—may belong to many of these types of mind; but I do not think it will be maintained that the clearest minds are always the most profound or the most far-seeing. Clarity may be found even in those thinkers, despised by Kant, whose philosophy is the history of philosophy. It is to be found still more often in what may be called analysts,² acute expositors, and often destructive critics, of the works of other men. In more positive and original thinkers it is to be found in those whose work is confined within a narrow sphere, or in those who, accepting certain premises, work out their consequences, as Berkeley and Hume worked out the consequences of the premises laid down by Locke. Perhaps it is to be found at its best in those creative thinkers who adopt a semi-mathematical method and, having laid down a number of self-evident principles, attempt to build upon them the fabric of truth, laying, as it were, one brick upon another, after the most scrupulous attention both to the thought and to its expression. Such methods, however, from their very nature are incapable of covering adequately the whole field of human thought; and I doubt whether this kind of clarity is to be found in the philosophers who advance, or revolutionise, thinking in every department of philosophy.

We have among us all these types of mind at the present time. There is, I think, a general insistence upon the need for clarity, and a reaction against what seem to us to be the too facile solutions, and too hurriedly comprehensive systems,

¹ Compare B XLIV, where Kant speaks of obscurities in the *Kritik*, which at the beginning are hardly to be avoided. This may, however, refer only to readers, and especially to readers who have not yet been able to study the whole system of the Critical Philosophy.

² This is how Kant describes Baumgarten (B 35 n.).

of the past generation. Yet while we have many clear writers, the thinkers who make the most serious attempts to gather together the different strands of human knowledge, and to work out their consequences in all branches of philosophy, are precisely the thinkers who are most commonly charged with obscurity. Professor Whitehead, for example, finds it necessary to invent a new vocabulary for the expression of his thought; and he is rebuked by his former followers for falling into contradictions and for giving up the clear distinctions which he found sufficient at an earlier stage of his reflexions. Professor Alexander is content in the main to use the accepted vocabulary of philosophy, but even his charming and persuasive style does not prevent his doctrine from seeming, to many of us, both difficult and obscure.

This phenomenon—which is to be found equally in music and in art—ought not to surprise us, when we find it in philosophy. When a man explores unknown countries, we do not blame him on his return because his maps are inferior to the ordnance survey of England. We have to remember that whatever Kant is doing he is certainly exploring new paths. We must expect that the account of his explorations will be strange to untravelled minds, and even that it may contain gaps and deficiencies which a longer residence in those parts might remedy. It is unreasonable to demand that a new philosophy should come before us, armed at all points, like a mathematical treatise.¹

§ 8. *The Reasons for Kant's Obscurity*

The obscurity to be found in Kant has been greatly exaggerated. As a writer he is very much clearer than most of his critics; and many of the alleged contradictions exist only in their imagination, and are due to misunderstandings for which Kant is not to be held responsible.² What obscurity

¹ B XLIV. Cassirer, *Kant's Leben und Lehre*, Chapter III (Berlin 1923), has an admirable discussion of the whole subject.

² It is astonishing, for example, how his clear statement about the Copernican revolution has been misunderstood. See BXVI; BXXII n.; Kemp Smith, *Commentary*, pp. 22 ff.; and compare Chapter III § 1.

there is, is to be found chiefly in the passages—such as the Transcendental Deduction and the Analogies—where Kant is breaking with tradition and trying to establish his revolutionary views. We need no far-fetched explanation of this. Kant's obscurity, where genuine, is sufficiently explained by two facts, firstly that the *Kritik* was composed in a hurry, and secondly that the problems investigated were as difficult as they were novel.¹

§ 9. *Kant's Use of Language*

The more serious source of obscurity, the novelty and difficulty of his theme, I need not discuss further; but something must be said about the effects of haste upon his use of language.

We know that Kant took little trouble in regard to proof-reading, and apparently he did not even see some of the proofs of the first edition.² Corrections noted by him in the first edition he fails to insert in the second edition. When he does make corrections in the text of the second edition, he fails to carry them out consistently.³ If one remembers the difficulty of the subject, one must believe that some obscurities are probably due to the printer. Others may be due to the fact that Kant made changes in his manuscript and failed to see to it that the necessary readjustments were completed.

A more fruitful source of obscurity is carelessness in the use of language. The *Kritik* proceeds as a free discourse,⁴ a dialogue of the soul with itself, and if we expect that the same word is always to be used in precisely the same sense, we shall certainly be disappointed.

Thus, for example, the word 'object' is used by Kant in at least four senses. It is used for the thing as it is in itself,

¹ It is possible that some of Kant's obscurity is due to the fact that he is in error, but that hypothesis must be the conclusion of an argument—not a principle of exegesis.

² A XXI-XXII.

³ See, for example, B 25 = A 11-12; B 29-30 = A 15-16.

⁴ B XLIV. It may be observed that in hurried writing of this type we expect to find repetitions—the great stumbling-block to some of the commentators.

and for the thing as it appears to us; or, in more technical language, it is used for the thing-in-itself and for the phenomenal object.¹ Furthermore the phenomenal object is itself composed of a matter given to sense and a form imposed by thought; and each of these is called by Kant the object, the former the indeterminate object, or the object as appearance, the latter the object in general. Hence he is capable of saying that the object is not known, and that the object must be known; and again that the object is given to us apart from thought, and that there is no object apart from thought.

To a microscopic critic guided only by the letter of the text these contradictions are insoluble. Yet it is obvious that such verbal contradictions may take place without any confusion in the mind of the writer. He expects us to judge from the context which particular sense of 'object' is meant, even although at times it may not be possible for us to do so with certainty.

I do not defend these carelessnesses of expression, nor do I maintain that the contradictions are always merely verbal; but I do assert that, with the exercise of a little intelligence and good will, many of the alleged contradictions will disappear.

There is another point which must always be remembered. Kant held that in philosophy definitions should come at the end, rather than at the beginning.² Some philosophers deny this, but even they ought to recognise that Kant has chosen to express his thought in a way different from theirs. He is not stating the results of his thought, or building up a system upon certain definitions. He is rather thinking aloud, and asking us to share in the conversation. To change the metaphor—we must do our best to follow him up the steep and thorny way of the *Kritik*,³ and then consider whether we can see the wide prospect which he claims to see. If we insist on each step being justified before we take the next, we shall never see anything.

¹ See B XVIII–XIX n., where Kant argues that these are the same object considered from different points of view.

² A 731 = B 759.

³ B XLIII.

§ 10. *Some Reservations*

The general position for which I stand is that such obscurities and contradictions as there are in the *Kritik* can be explained without any reference to the patchwork theory. I do so, however, subject to certain reservations.

In the first place I am speaking only of the Aesthetic and Analytic, though I have no reason to believe that I should take a different view of the Dialectic.

In the second place, quite apart from the patchwork theory, there is a wide consensus of opinion that the Aesthetic was written at an earlier period than the Analytic, or at any rate expresses an earlier level of thought inconsistent with that of the Analytic.

Such a hypothesis seems to me a tenable hypothesis, and in face of the immense authority behind it, I hesitate to reject it. Kant certainly speaks, throughout the Aesthetic, as if the object could be given to sense by itself, and he says nothing of the activity of thought which, in the Analytic, he insists is necessary for knowledge of an object in the full sense. The reason for this may conceivably be that he is too shortsighted, to see what is coming, or that he used an earlier doctrine¹ without realising its full inconsistency with the central doctrine of the *Kritik*. I cannot, however, conceal my own belief, unpopular at the moment though it be, that this seeming inconsistency in Kant is due to the fact that he is too long-sighted, and expects his readers to be long-sighted also. At the very outset he says that in the Aesthetic he proposes to isolate sensibility, and to take away from it everything that the understanding thinks.² And what he says he will do, that he does. There is hardly a breath of the work of understanding in the Aesthetic; and Kant, I believe, expects his readers to remember, through a long and complicated argument, that everything is in a sense provisional and is to be

¹ The doctrine of the *Dissertation*. One point against this view is that there are marked differences between the Aesthetic and the *Dissertation*.

² A 22 = B 36. Compare A 62 = B 87 and A 305 = B 362.

reinterpreted in the light of what comes later. I think that a hint or two to that effect would have been a help, and that he ought not to have reserved its clear statement for a footnote to the *Analytic* in the second edition.¹

There is one other passage which as a whole I am prepared to consider as possibly written at an earlier date, and as expressing an earlier level of thought. That passage is what I have called the provisional exposition of the Transcendental Deduction.² Its doctrine of imagination is undoubtedly inconsistent with the doctrine expressed elsewhere. If it is taken as early,³ we have an intelligible evolution of Kant's thought from a less satisfactory to a more satisfactory view, and it is understandable that Kant should retain the earlier version as showing the road by which he had travelled. This, however, I regard as an uncertain hypothesis. All we can be said to know is that Kant considered the passage a suitable preparation for his systematic exposition.⁴

An admission of the kind I have made gives us no warrant for supposing that Kant was capable of overlooking flagrant contradictions in different expositions of his theory. In this case he need not be unaware of the contradictions. His awareness of the contradictions may be the reason why he warns the reader that the whole passage is to prepare rather than to instruct him.

Subject to these reservations, I see no reason to regard the *Kritik* as other than a unitary work. In so saying I do not mean to express any opinion as to the method of its composition; for on this subject we have no adequate evidence. Still less do I mean to deny the presence in it of repetitions, obscurities, inequalities, and inconsistencies. I mean that the only hope of understanding the *Kritik* lies in treating it as

¹ B 160-1 n.

² A 98-114. Adickes shows more understanding of this than Vaihinger.

³ Vaihinger takes the first part of it as late. I would add that the researches of de Vleeschauwer (*La déduction transcendentale*) have shown conclusively that this part cannot be very early.

⁴ A 98.

a whole and trying to fit its different parts together.¹ I believe that this method of treatment is not made impossible by such inconsistencies as are to be found in Kant; and I am quite sure that beginners in Kant ought to be given some view, even if partly mistaken, of the doctrine as a whole before being plunged into modern expositions of its alleged unending contradictions.

§ 11. *Kant's Claim*

As will be obvious from this discussion, Kant himself was fully convinced that his *Kritik* is a unitary work. Indeed for him it is so much a unitary work that to change even the smallest part of it would give rise to contradictions, not merely in the system, but in human reason itself!² This statement, it must be remembered, he makes after having had the advantage of hearing what the critics had to say about it.

I shall be told, no doubt, that a man is not always the best judge of his own work. The commentators are wont to quote Kant's own dictum about Plato, that it is often possible to understand an author better than he understands himself.³ Whether even Kant really understood Plato better than Plato understood himself is a matter on which there may be two opinions; but even if he did, that does not justify us in supposing that lesser men can understand Kant better than he did himself. I have no desire to suggest that Kant was a demi-god incapable of error, but I think that he knew very well what he was about.

Another thing I shall expect to be told is that Kant's insistence on the unity of his work is merely another example of his devotion to 'architectonic', an artificial and external plan imposed upon his exposition because of a desire to make it conform to the divisions of Formal Logic. This assertion seems to me at the best to be only a half-truth. I do not deny

¹ I believe also that Kant is in the main right in saying that the changes made in the second edition concern the method of exposition rather than the substance of the doctrine. See B XXXVII ff.

² B XXXVIII.

³ A 314 = B 370.

that the Formal Logic on which Kant based so much of his argument has been superseded; nor do I deny that he ought to have seen the necessity for reconsidering his presuppositions. Nevertheless there is no part of Kant's doctrine which has, in my opinion, been more grossly misunderstood than his theory of Formal Logic and its relation to Transcendental Logic. If we can remove some of these misunderstandings, and above all if we can place Kant in his historical setting, I believe that much which has been ascribed to an irrational pedantry and a muddleheaded love of architectonic will be seen in a very different light. I believe also that a proper understanding even of Kant's errors will enable us to grasp more clearly the unity of his thought.

§ 12. *Kant as a Thinker*

There is much in Kant, much even in the first half of the *Kritik*, which is still to me personally dark and difficult. Nevertheless many passages which at one time were obscure to me have, with further study, become clear; and I think that I have discovered the meaning of some arguments which have been widely misunderstood. This has encouraged me to believe that other difficulties are in principle soluble, and I am convinced that the prevailing view of Kant in this country fails to do justice to him. The confused and pedantic thinker, portrayed by some commentators seems hardly the sort of person to set all Germany in a philosophical ferment and to initiate a series of movements whose repercussions in other countries are far from having ceased even at the present time. It is possible to look upon all these movements as misguided, and I suppose this is what Mr. Bertrand Russell means by calling Kant 'a misfortune': yet to say this is not to deny Kant some elements of greatness; for to be a misfortune in modern philosophy must require considerable gifts, even if they are of a non-philosophical kind. If we regard Kant—to put it at its lowest—as the Mrs. Eddy of philosophy, the nature of his influence would still require to be explained; and its source is not to be found merely in his moral fervour,

and still less in his gifts of rhetoric. I believe myself that if we can penetrate, even imperfectly, into the argument of the *Kritik*, we shall find something other than a pedantic old professor, armed with an external architectonic, incompetently tacking together old notes of what he used to think. We shall find a powerful and penetrating intellect struggling and twisting relentlessly towards its goal.

BOOK I

KANT'S PROBLEM

CHAPTER II

APPEARANCE AND REALITY

§ 1. *Primary and Secondary Qualities*

According to Kant, the world which we know fills space, and lasts through time, and is composed of permanent substances acting upon one another in accordance with the law of cause and effect. This world is common to all human beings and is explored by science: yet it is a world, not of things as they are in themselves, but only of things as they appear to us; or, in Kant's language, a world of phenomena or appearances.

By this Kant does not mean that things as they appear to us exist only at the moment when they are perceived, or that everything is what it appears to be at the moment. He distinguishes—as we all must—between the time-order of our sensations and the time-order of objective events; the back and the front of a house, for example, exist at the same time, although I can never see them at the same time. There is an objective world¹ which we seek to know, and which must be distinguished from the subjective series of sensations and thoughts by which we seek to know it.

For common sense this objective world is composed of things-in-themselves; that is, of things which are what they are independently of our sensations and our thoughts, and indeed independently of the constitution of the human mind. When we do not fall into error, we know things as they really are, and as they still would be, if there were no minds to know them. A billiard ball is red and hard and smooth and spherical. All these characteristics it possesses in itself, and we do not make them or contribute to them: we merely discover them.

¹ This world is called 'objective', since it is an object common to all men; whereas my sensations or thoughts are 'subjective'—they belong to me and to nobody else. This distinction is provisional and requires further analysis. There is a sense in which even my sensations and thoughts form part of the one phenomenal world, and they can be known, though not directly intuited, by other people.

This common-sense view is difficult to uphold on reflexion; and it has long been a wide-spread belief among philosophers and scientists that the billiard ball possesses in itself only the primary qualities (size, shape, motion etc.). The secondary qualities, such as colour and sound, are supposed to result when the sense-organs of living bodies are affected by the primary qualities, particularly by motion. On this view the world of things as they are in themselves is characterised only by the primary qualities:¹ the secondary qualities are mere appearance.

This doctrine has been forced upon men's minds by the success of the sciences, and especially of physics, during the last three centuries. Kant accepts it,² so far as he holds that the primary qualities are the same for all men, while secondary qualities may be different for different men. At times he speaks as if the secondary qualities were purely subjective, and could in no sense be attributed to objects. At other times he recognises that the colour and the scent of the rose can be attributed to the object *in relation to our senses*.³ He affirms on the other hand, not only that primary qualities are objective, but even that physics, from its own point of view, is justified in treating the rainbow as a mere appearance and in regarding the physical drops of rain (with their primary qualities) as things-in-themselves.⁴

His own Critical doctrine, however, is that we must distinguish, not two things, but three: (1) *the secondary qualities*, which depend on our individual sense-organs and on our position in space; (2) *the primary qualities*, which are objective and common to all men, but which nevertheless depend on the constitution of the human mind, although not on our indi-

¹ The primary qualities are not the *apparent* size, shape, and motion (which vary with our different sense-organs and our different positions in space); they are determinable by scientific measurement and are the same for all men. Compare Plato's reference to 'counting and weighing and measuring' in *Republic*, 602d.

² A 28-9; B 44; A 29-30 = B 45; A 36 = B 53; A 45-6 = B 62-3; B 69-70; *Prol.* § 13 *Anmerk.* II (IV 289).

³ B 69-70.

⁴ A 45-6 = B 62-3.

dual sense-organs or our position in space; (3) *the thing-in-itself*, which is what it is independently of the human mind, but which, for reasons to be considered later, cannot be known by us.

On this view secondary and primary qualities, taken together, are opposed to things-in-themselves as appearance to reality. The distinction between secondary and primary qualities is a distinction within appearance, not a distinction between appearance and reality. The secondary qualities are (relatively) private and subjective, the primary qualities are common and objective, appearances; but they are neither of them realities independent of the mind which knows them. Nevertheless the primary qualities do not, like the secondary, exist merely when they are perceived: they are permanent characteristics of the objects of experience.¹

§ 2. *Relation of Appearances to Reality*

What is the relation between things-in-themselves and appearances? Kant never questions the reality of things-in-themselves, and never doubts that appearances are appearances of things-in-themselves.² The appearance is the thing as it appears to us, or as it is in relation to us, though it is not the thing as it is in itself. That is to say, things as they are in themselves are the very same things that appear to us, although they appear to us, and because of our powers of knowing must appear to us, as different from what they are in themselves. Strictly speaking, there are not two things, but only one thing considered in two different ways: the thing as it is in itself and as it appears to us.³

¹ The whole doctrine of substance is meaningless unless this is true. For Kant the actual or existent is not what is immediately present to sensation, but what is connected with sensation in accordance with the Analogies. See A 225-6 = B 272-3 and compare Chapter XLIX § 1.

² Compare *Prol.* § 13 *Anmerk.* III (IV 293). I believe with Adickes that the section on Phenomena and Noumena implies no qualification of this assertion, though it has often been supposed to do so. See Adickes, *Kant und das Ding an sich*, pp. 95 ff., and compare Chapter LVI. ³ Compare B XVIII-XIX n.; B XXVI; and B XXVII.

This view seems to be Kant's primary view, but he also speaks, less happily, of appearances as being due to the 'influence' of things in themselves; and he speaks of things-in-themselves as 'affecting us' or 'affecting our sensibility', and so producing appearances or ideas. This usage is natural and difficult to avoid, but it may be misleading. We must remember that the relation of an appearance to the reality which appears is more intimate than the relation of effect to cause, and involves no such temporal succession as is involved in the causal relation. It would be truer to say that the thing-in-itself is the condition, than that it is the cause, of the appearance.¹

It is not, however, the only condition. The other condition which determines the character of appearances is the mind. The appearance is indeed given to us in sensation, which is passive, but this does not mean that the thing-in-itself, or some part of it, migrates unchanged into our mind;² it does not mean—if we prefer to avoid metaphor—that the thing-in-itself, or some part of it, appears to us just as it is in itself. Our sensibility is such that things must appear to us as spatial and temporal, whatever be the character which they possess in themselves. Space and time are due to our human sensibility, or in Kant's language are forms of our sensibility, and not characteristics of things-in-themselves. Furthermore, if we are to be aware not merely of a succession of sensa, but of a physical world of substances in interaction, the mind must be active in thinking, and must contribute to the manifold of sense the categories—such as substance, or cause and effect—which belong to mind in its nature as understanding. The character of the human mind (with its human sensibility and understanding) determines (along with things-in-themselves) our common objective world. It determines in short how things-in-themselves must appear to us. For this reason the world we know is a world of appearance, a world of things as they appear,

¹ Even this is not so true as to say that the thing-in-itself is the reality which appears, and that this reality is for us unknown and unknowable.

² *Prol.* § 9 (IV 282).

and must appear, to human minds, but not a world of these things as they are in themselves.

The world we know is, however, not an appearance to momentary sense, but an appearance to sense and thought, or to sense and understanding. Just because the mind is not mere sense, but is active in thinking, it is able to transcend the momentary sensation, and to be aware of a world of permanent substances in interaction. But the world of which it is aware—even in scientific knowledge—is a world transformed by the necessary conditions and limitations of finite human experience.

§ 3. *Mental States*

Kant's primary concern is with the physical world studied by natural science, but he extends his principles also to the mental world which is studied by psychology. He supposes that just as we have an outer sense which enables us to know a world of bodies in space, so we have an inner sense which enables us to know the world of our own mental states. But what we know by inner sense, and study in psychology, is also phenomenal: we know our own mind, not as it is in itself, but only as it appears to us under the special conditions which determine human knowledge. We know it, for example, as a succession of mental states in time; but this is due to the fact that time is the form of our inner sense. Human sensibility is such that it imposes temporal relations on what is given to inner sense; and apart from this condition of human sensibility, intuition might apprehend my inner states without any reference to time or to change.¹

The complications to which this view gives rise are obviously great, and it is to be remembered—although Kant appears to waver on this point—that our mental states and physical bodies are all part of one phenomenal world, and are all alike subject to the laws of cause and effect. It is part of Kant's

¹ A 37 = B 54. Kant's own statement is not confined to changes of inner states, but it is these which he has specially in view.

theory that within this phenomenal world the impact of light upon the human eye can be the cause of a sensation of colour.¹ Yet the ray of light and the human eye and the sensation of colour are all appearances of unknown things-in-themselves; and, as we have seen, Kant's language in many places suggests that things-in-themselves are the causes of these appearances. This looks like a double causality similar to the double causality which Kant finds in human action (such that the will in itself may be free, although the visible actions which constitute its appearances in the phenomenal world are all determined by the law of cause and effect).² The phenomenal cause of sensations is to be sought in the movements of physical bodies which are themselves phenomenal, but the ultimate cause (or, better, condition) is the thing-in-itself.

If the self which is known in inner sense is only phenomenal, what are we to say of the self which knows? Is the knowing self a thing-in-itself, although the known self is only an appearance? To this question Kant's answer is obscure; but perhaps we may say, in the light of his moral philosophy, that the self does belong to the realm of things-in-themselves, although as a thing-in-itself it can never be known by us.³

On this view the phenomenal world which we know is the joint product of the knowing mind and things-in-themselves. We can analyse it into different elements which have a different origin. What Kant calls the manifold of sense is contributed by things-in-themselves, but the space and time in which the manifold is arranged, and the categories under which the manifold is thought, are the contribution of the human mind.

§ 4. *Difficulties*

The distinction between a phenomenal world which we know and a world of things-in-themselves which we do not know is fundamental to Kant's metaphysics. It enables him both to explain our *a priori* knowledge of the phenomenal world,

¹ Compare A 28 and A 213 = B 260.

² See B XXVII-XXVIII.

³ Compare B XXVIII.

and also to justify our belief in God and in human freedom. Unless we adopt this distinction as a provisional hypothesis, we cannot hope to have other than an external view of his philosophy. The understanding of Kant has been hampered in this country by the fact that when he began to be studied here, the idealist philosophy of Germany had discarded the unknown thing-in-itself. Hence the English neo-Kantians were apt to underestimate or ignore this side of his philosophy, and to interpret (or misinterpret) Kant in terms of Hegel.

The difficulties of the Kantian hypothesis are indeed obvious. If we cannot apply our human categories to things-in-themselves, how can we speak of things-in-themselves in the plural? Is not number for Kant bound up with the category of quantity, and meaningless apart from space and time? How can we say that our sensations are due to the influence of things-in-themselves? Is not 'influence' simply a word for a special case of the category of cause? More generally, can we accept an admittedly unknown reality as an essential part of any intelligible explanation of the world? Above all, can we believe—if this is Kant's doctrine—that the world as we experience it is due to the interplay of two unknown things-in-themselves, one of which is a self, while the other is perhaps not a self?¹ It is difficult to accept one wholly unknown factor. It is almost impossible to accept two. If they are wholly unknown, how can they be distinguished from one another?²

Kant holds that we can *think* things-in-themselves, although we cannot *know* them,³ and in this way he may perhaps hope to avoid some of these difficulties. But such a view introduces new difficulties of its own. According to him it is possible for us to think, that is to entertain a concept, without being able to show that there is, or even can be, an object corresponding to such a concept. If we are to know an object, and not merely

¹ Kant is willing to suppose that this also may be a self, or at any rate a monad; but he regards such a supposition as mere speculation.

² In A 358 Kant himself suggests the possibility that there may not be two things, but only one.

³ See B XVIII and B XVIII–XIX n.; also B XXVI ff.

to think it, we must be able to show at least the possibility of an object corresponding to our thought. A thought or concept is possible, that is, *logically* possible, if it is not self-contradictory. It does not follow from this that its object is possible. The *real* possibility of the object must be shown in other ways. We may, for example, be able to think or conceive freedom without any logical contradiction, and yet be unable to show that freedom itself is really possible. In such a case we are said to think freedom, but not to know it.¹ We can also think or conceive a figure bounded by two straight lines, for this involves no logical contradiction. But we cannot know such a figure, because it is incompatible with the nature of space, which is a condition of our experiencing objects.²

The difficulties of such a distinction do not concern us here, but only its application to the thing-in-itself. Since the thing-in-itself is *ex hypothesi* real, it would seem to be *ex hypothesi* possible; and if we can think it, and think it truly, how is such thought to be distinguished from knowledge?

Kant's answer is that such thought is empty. It is merely the thought of an unknown something which is neither real nor possible in the same sense as objects of experience are real or possible.³ We can think only by means of human categories, but these categories (including the category of actuality or existence) are empty apart from a manifold given to sense under the forms of space and time: in abstraction from sense they cannot give us knowledge.

This answer gives rise to fresh difficulties. The categories on this view cannot, strictly speaking, apply to things-in-themselves,⁴ even although we are unable to speak or think of

¹ See B XXXVIII.

² See A 220-1 = B 268. Other examples will be found on the same page and those that follow.

³ For this sense, see the Postulates of Empirical Thought and compare Chapters XLIX and L.

⁴ Adickes (*Kant und das Ding an sich*, p. 57) maintains that Kant uses the word 'category' in two senses, (1) as synthetic functions of our transcendental unity of apperception, and (2) as the most universal qualities, connexions, and relations of things which are created or posited by these functions; and that categories in the second

things-in-themselves without making use of the categories. Such use seems to be mythological and devoid of intelligible meaning. What meaning it has for us is due to the assumption of some sort of analogy¹ between things-in-themselves and objects of experience; and this assumption is illegitimate, if we take it as a basis for genuine knowledge.²

§ 5. *Historical Background*

Kant's doctrine—like any doctrine which speaks of the unknown and unknowable—has the appearance of paradox, or even of self-contradiction, and it is the more necessary to understand the grounds which lead men to hold views of this type.

The doctrine is partly due to the history of philosophy during the eighteenth century. Of the two schools which were active at that period, the empirical school believed that the mind was a *tabula rasa*, which received passively the impressions of sense; and, this belief, when its implications are thought out, results in the view that mind can never penetrate to a reality which is the source of these impressions. This consequence was gradually made explicit in the writings of Berkeley and Hume. The rationalistic school, on the other hand, assumed that pure thinking could grasp the ultimate realities; for example, that it could demonstrate the existence and attributes of God. Kant himself had been brought up in the rationalistic view, but had finally come to the conclusion that the pretensions of pure thought to know such ultimate realities are unwarranted. He continued nevertheless to believe in these realities, and

sense can be applied to things-in-themselves. This seems to me mistaken, but he is right in saying that if they can be so applied, they must be unschematised categories: e.g. causality as applied to things-in-themselves involves no idea of temporal succession.

¹ This is expressly stated by Kant in A 696 = B 724 and A 698 = B 726.

² See Chapter LIV for Kant's rejection of this 'transcendental use' of categories. For a defence of 'cognition by analogy'—as opposed to 'theoretical cognition'—see *Fortschritte der Metaphysik* (*Phil. Bib.* 46c, p. 107), and compare *Kritik der Urteilskraft* § 59 (V 352).

therefore, when he gave up rationalism, he was forced to the view that things-in-themselves are unknowable.

§ 6. *Idealism and Science*

The reasons for Kant's view are, however, deeper than this. In his thought idealistic and realistic tendencies are at work, and it is the combination of the two which produces the doctrine of the thing-in-itself.

Idealism, whatever be its ultimate value, is more than a mere confusion of thought or a temporary aberration of the modern mind. It is partly a reaction against science, an attempt to preserve the reality of human values in a mechanical world; but it is also related to the development of modern science (especially physics) in a more positive and intimate way.

The natural tendency of the human mind is realistic, and to common sense our ordinary world of tables and chairs and houses and trees is the real world. The world of tables and chairs is, however, very different from the world as known to physics. The development of physics forces on our minds the contrast between appearance and reality, between the world as it seems to common sense and the world as it is to the scientific observer. This in turn gives rise to further reflexions. If what is obviously real to common sense becomes mere appearance to the deeper insight of the scientist, may there not be a still deeper insight to which the real as known by the scientist is merely the appearance of a reality beyond?

The view that the scientist deals only with appearance is the view which Kant holds; and it rests, not on a mere sceptical fancy or plausible analogy, but on a criticism of science itself.

Such criticism is forced upon us in the present century, even more than in the time of Kant. Knowledge is developing so rapidly that the physical world as it appeared to science the day before yesterday is very different from the physical world as it appears to science to-day. Who knows how it will appear to-morrow? There are few thinkers who would claim that modern science gives us adequate knowledge of the world

as it really is; and even the fundamental concepts of physics are being subjected to criticism and revision. The scientists themselves are finding paradoxes and inconsistencies thrust upon them—as in the case of the Quantum Theory and the Theory of Relativity. It is even asserted that time is merely a human way of looking at things, and is not to be found in the physical world; and that we are aware only of our own measurements, but have no idea of what it is that we are measuring. Such assertions, made quite independently of Kant's influence, look very like a revival of the Kantian doctrine, and give an added interest to the argument of the *Kritik*.

No doubt it may be said with justice that all such distinctions between appearance and reality are made on the basis of knowledge (or presumed knowledge) of reality, and therefore they cannot justify a distinction in which reality becomes the unknown and appearance the known. The knowledge of reality required for the distinction may, however, be of the most general character, such as the knowledge that reality must be consistent with itself. If our theories of reality contradict one another, we know that what is asserted in them is at least partly appearance and not reality; but we may not be in a position to construct the true theory which would describe reality as it is. The knowledge that reality is self-consistent is a very empty kind of knowledge, and even Kant would perhaps admit we had that kind of knowledge of things-in-themselves.¹ He would, however, maintain that so empty a principle does not enable us to make any further advance in knowledge, unless things-in-themselves are given to us in experience, as he believes they cannot be.

At any rate Kant's doctrine is this, that scientific thought can penetrate beyond our passing sensations to a common and objective world of substances in interaction, but that this world is a world of things as they appear to human minds, and not a world of things as they are in themselves. It would be unreasonable without examining his arguments to dismiss this theory on the ground that it is a contradiction in terms.

¹ This seems to be implied in the Antinomies.

That the world, even as it is known to science, is essentially an appearance to human minds is an idealist doctrine (not of course the only idealist doctrine). It is because Kant is in a sense a realist that he holds this world not to be a creation of human minds, but to involve the reality of things-in-themselves.

§ 7. *Kant's Realistic Tendencies*

Kant is trying to do justice to different sides of our experience. He recognises that the world is given to us, and is not the product of thinking or of fancy. There is a kind of compulsion in our experience which is different from the intelligible necessity by which the conclusion follows from the premises of an argument. We can see the sky only as blue, and no amount of thinking will alter its colour. Kant never ceases to believe that there is a passive element in our experience, and that something given without any effort on our part is necessary for human knowledge.

It does not, however, appear that he *argued* from the existence of the given to the reality of things-in-themselves as its necessary cause. Such an argument is unconvincing in itself, and doubly unconvincing for a philosophy which confines the category of cause to the world of appearances.¹ Rather he would seem to regard the thing-in-itself as immediately present to us in all appearances, although its real (as opposed to its apparent) character is to us unknown.²

The reality of things-in-themselves is not considered by Kant to be in need of proof. It would, he says, be ludicrous that there should be an appearance without something which appears.³ This is the presupposition both of common sense and of realism, and it is neither questioned nor doubted by

¹ Compare A 609 = B 637.

² Adickes has argued this view with great force in *Kant und das Ding an sich*. Compare Vaihinger, *Commentar*, ii, pp. 110-11.

³ B XXXVII; A 251-2. Taken as an argument, such a statement is unconvincing, for it depends on the term 'appearance', which may be inappropriate. Nevertheless it expresses one of the fundamental, if unreflective, convictions of the human mind, and this conviction is shared by Kant.

Kant. The only question with which he is concerned is whether the thing-in-itself can, or can not, be known.

For naïve realism things are in themselves just what they appear to be. The philosophy of scientific materialism strips off the secondary qualities as mere appearances, and regards the physical body as the thing-in-itself. Kant goes a stage further and strips off the primary qualities also as appearances (although appearances of a different kind). He is then left with a thing-in-itself which has no knowable characteristics other than that of being the thing, not as it appears to us, but as it is in itself.

Kant holds that the retention of the thing-in-itself distinguishes his philosophy from idealism as previously understood, and especially from such a philosophy as that of Bishop Berkeley.¹

Although Kant nowhere expressly says so, it seems reasonable to suppose that he believed the reality of things-in-themselves to be necessary, if there is to be a common objective world known to different individuals. Such a common objective world he everywhere assumes, and he assumes further that it is the object of scientific knowledge. Science in his view seeks to get beyond the merely individual point of view, to ignore what is due to the individual's sense-organs and position in space, and to discover the world which is common to all men who take the necessary trouble and perform the necessary measurements.

The existence of different individual knowing minds is also assumed by Kant. He does not attempt to prove it, or even to discuss our reasons for believing it.

§ 8. *Kant's Arguments*

If we are to follow Kant, we must start from the common-sense assumption that there are real things, and that these real

¹ See *ProL.* § 13 *Anmerk.* III (IV 293). It must, however, be remembered that Kant's belief in the permanent existence (or phenomenal reality) of physical substances is at least as important a ground for distinguishing his view from that of Berkeley. See the *Refutation of Idealism*.

things appear to us. The hypothesis¹ which Kant puts forward, and hopes to demonstrate in the *Kritik*, is that real things never appear to us as they are in themselves; that we can never know things as they are in themselves, but only their appearances, whose character is affected throughout by the nature of the knowing mind.

I have expressed this in a negative way, and the negative side of Kant's doctrine is of importance. Kant hopes to prove the uselessness of speculation about ultimate reality, and also to defend religion and morality against attacks by showing the incompetence of theoretical reason in such matters.² The positive side of his argument is, however, of equal, or even greater, importance. If metaphysics will only cease from the pursuit of an ultimate and unknowable reality and will concern itself with the world of appearances, then it will be able to enter on the sure path of an exact science.³ We must give up the speculative metaphysics of the past and substitute for it a metaphysic of experience.⁴ If we do so, we shall be able to acquire with little difficulty a limited, but complete, system of infallible knowledge. The *Kritik* does not profess to offer us such a system, but it offers us the complete plan of such a system, and there remains only the comparatively easy task of filling in minor details.⁵

The central principle of Kant's argument is the revolutionary and paradoxical view that we can have *a priori* knowledge of things only in so far as what we know of them is imposed by the nature of our own minds.⁶ Kant hopes to show (1) that we do possess *a priori* (that is, universal and necessary) knowledge, and (2) that there is no explanation of such knowledge unless the character of the objects as known is determined

¹ Compare B XXII n. ² See B XXXI. ³ B XVIII-XIX.

⁴ So we may suitably describe what Kant calls (in B XVIII) 'metaphysics in its first part'. This is dealt with in the Aesthetic and Analytic.

⁵ B XXII-XXIV. Compare A XXI and A 82 = B 108.

⁶ B XVIII, 'We can know *a priori* of things only what we ourselves put into them.' The roots of this view are to be found in Leibniz, but he failed to draw the obvious conclusions.

by the nature of our powers of knowing. If the second contention is true, it follows that our *a priori* knowledge is knowledge, not of things as they are in themselves, but of things as they must appear to us. We must give up hopes of attaining *a priori* knowledge in regard to ultimate reality, but we can determine with complete accuracy and precision our *a priori* knowledge of the phenomenal world. It is not the least of Kant's claims that his philosophy, and his alone, can offer a justification of our *a priori* knowledge in mathematics, and can determine the *a priori* principles presupposed in experimental physics.

Kant's central argument may be said to differentiate itself into three main arguments. These are concerned with intuition, understanding, and reason. Intuition involves an immediate relation to a given individual object, and in human beings intuition is always sensuous and not intellectual, which means that it is passive and not active.¹ Understanding is a power of thinking, by means of concepts, the objects given in intuition. Reason is a power of thinking objects which can never be given in sensuous intuition.

In the Aesthetic Kant maintains that our intuitions of space and time are *a priori* intuitions, and are therefore due to the nature of our sensibility. Hence our *a priori* intuitions of space and time (the only *a priori* intuitions we possess) cannot give us knowledge of things as they are in themselves. They can, however, give us *a priori* knowledge of things as they must appear to human minds; for things can appear to human minds only if they are given to a sensibility which imposes spatial and temporal form on all the empirical intuitions it receives.

In the Analytic he argues that the categories of the understanding (such as cause and effect) are *a priori* concepts, and depend therefore on the nature of thought, not of things; they are meaningless and empty, except as applied to temporal and spatial things, that is, to appearances given in human intuition. Hence understanding cannot give us *a priori* knowledge of things-in-themselves, but only of appearances.

¹ A 19 = B 33; A 50 = B 74.

In the Dialectic (especially in the Antinomies) he argues that although reason must, by its very nature, seek to go beyond what is given to sense, and must strive to pass from the conditioned to the unconditioned, nevertheless it falls into hopeless contradictions when it supposes that our human categories apply to things-in-themselves. These contradictions are solved, if we distinguish the unknown thing-in-itself from its appearances, and if we recognise that our categories apply to appearances alone.

Therefore neither by intuition, nor by understanding, nor by reason, nor by any combination of these, can we have *a priori* knowledge of things-in-themselves, although we can have such knowledge of the phenomenal world.

These proofs may be said to be confirmed by the fact that when we accept their conclusions on purely intellectual grounds, we are able to justify our moral and religious beliefs. These are unjustifiable if we suppose that our categories apply to ultimate reality. If, for example, the category of cause and effect applies to things-in-themselves, freedom, which is necessary to morality, becomes a manifest impossibility.¹

The value of each of these arguments has to be considered on its own merits. In the present book I am concerned only with the first two arguments, but it must be remembered that the argument of the Dialectic is of equal importance. It must also be remembered that although we know nothing of things as they are in themselves, we do know how they appear, and must appear, to human minds; and further that the limitations of our theoretical knowledge are to a certain extent overcome, according to Kant, by a reasonable faith founded on our moral experience.

¹ B XXVIII-XXIX.

CHAPTER III

SYNTHETIC *A PRIORI* JUDGEMENTS

§ 1. *The Copernican Revolution*

Kant is attempting to make a revolution in philosophy. He believes that there comes, in the sciences, a point where some one introduces a complete change of method, and by this change the science becomes really a science: it ceases to be a mere 'groping about', and enters upon the sure path of steady progress. Such a change occurred in mathematics when demonstration by means of construction was introduced. It occurred in physics when Galileo and Torricelli developed the experimental method. It occurred in astronomy when the Copernican hypothesis was first propounded. Kant compares his own philosophical revolution with that initiated by Copernicus.

At first sight no comparison could seem more inappropriate. Copernicus substituted a heliocentric explanation in astronomy for the existing geocentric explanation. Kant seems, in the sphere of metaphysics, to be doing almost the precise opposite—making the human mind the centre of the phenomenal universe, so that things must conform to our mind, rather than our mind to things.

Kant himself, however, states quite clearly the precise point of the analogy.¹ Copernicus explained the *apparent* motions of the heavenly bodies as due to the motion of the observer on the earth.² Kant similarly explains the *apparent* characteristics of reality as due to the mind of the knower.³ The analogy

¹ B XVI; B XXII n. The critics who condemn him on this point have simply failed to understand what he says.

² We shall see Kant's comparison most easily if we think of the fixed stars as having themselves no motion; for then their apparent motion is entirely due to the observer. Similarly we must regard things-in-themselves as neither spatial nor temporal; the fact that they appear to be so is entirely due to the nature of the human mind.

³ Kemp Smith (*Commentary*, p. 24) supports this interpretation by quotations from Copernicus, *De Revolutionibus*.

is not loose, and still less is it inappropriate: it is absolutely precise.

Kant believes that the task of knowing the mind in its cognitive powers is comparatively easy, and has indeed been largely performed by the existing logic.¹ If the fundamental characteristics of reality as it appears are due to the nature of the knowing mind, it should not be difficult to give an exhaustive account of them.²

This will be the task of 'the first part of metaphysics', that is, of Kant's own positive metaphysics, which is concerned with the world of experience.

§ 2. *A priori Knowledge*

Kant's main ground for attempting a revolution in philosophy is the fact that we possess *a priori* knowledge.³ Either our ideas must conform to things, or things (as known) must conform to our ideas.⁴ If the former hypothesis be adopted, *a priori* knowledge is impossible. Only on the latter hypothesis can the possibility of such knowledge be understood. This is the central and revolutionary doctrine of the *Kritik*.

What then is *a priori* knowledge? It is knowledge which is independent of experience and of all sense-impressions.⁵ Knowledge which is derived from experience or sense-impressions⁶ is empirical or *a posteriori*.

Kant distinguishes pure *a priori* knowledge from knowledge which, although *a priori*, is not free from empirical elements.⁷

¹ A XIV.

² A XX; B XXXVI.

³ Compare Chapter II § 7. Kant is really thinking only of *synthetic a priori* knowledge, as is explained in § 4 below.

⁴ B XVI-XVII; A 92 = B 124; A 114; A 128-9; B 166.

⁵ B 2. Nevertheless such knowledge begins only with experience, and indeed can be separated from the matter of sense-impressions only by a skill which requires long practice; see B 1-2.

⁶ B 3. For Kant intuition, and therefore sense-impressions, are essential to human experience.

⁷ It may seem at first sight surprising that the example given of *a priori* knowledge which is not pure is the proposition 'Every event has its cause'. This is explained in A 160 = B 199-200. Compare A 171 = B 212-13 and also Chapter XXXVI § 3.

To this distinction he does not consistently adhere, and 'pure' is commonly used as synonymous with '*a priori*'.¹

The definition of *a priori* knowledge is negative, but this negative definition is supplemented by a positive criterion. Necessity and universality² are the criteria or marks by which we distinguish the *a priori* from the empirical. Experience can give us only generalisations from fact. We can say by experience that all swans, so far as we have observed them, are white; but we cannot say that they must be white, or that there can be no exception to the general rule. When we say that all triangles have the interior angles equal to two right angles, we are stating what is necessary and universal. The merely 'general' admits of exceptions, but the 'universal' does not.³

Kant holds that if we possess *a priori* knowledge, we must have a power or faculty of *a priori* knowledge.⁴ This doctrine is common to him and his rationalistic predecessors. They believed, however, as Kant himself did for long, that this power of *a priori* knowledge (which for them was reason) gave us knowledge of things-in-themselves. Kant argues that if we think out what is involved in the possession of *a priori* knowledge, we shall see that it must be derived from the nature of mind, and not from the nature of things. This doctrine must be distinguished from the mere assumption that we have a power of *a priori* knowledge.

§ 3. Temporal priority

The *a priori* does not involve temporal priority. All our knowledge begins with experience, and there is no knowledge which precedes experience in time.⁵ Yet although all knowledge begins with experience, it is possible that some knowledge is not derived from experience, and is not dependent on

¹ Compare B 1 (the title of the section).

² Prichard suggests that these are ultimately identical (*Kant's Theory of Knowledge*, p. 4 n. 3).

³ In B 3-4 Kant distinguishes comparative or empirical universality from strict (or rational) universality. For the difference between 'general' and 'universal', see *Log.* § 84 *Anmerk.* 2 and § 21 *Anmerk.* 2 (IX 133 and 102).

⁴ B 4.

⁵ B 1; compare A 1.

experience. Experience may be something composite; and it may be that sense impressions give us the matter, while our powers of knowledge give us the form, of experience.

This doctrine is stated emphatically at the beginning of the Introduction in both editions, and it is repeated again and again in the *Kritik* and in Kant's other writings.

A few examples will make this point clear. Pure concepts are said to lie already prepared in the human understanding, but they are developed on the occasion of experience.¹ We can discover in experience the occasioning causes of their production.² The impressions of the senses supply the first stimulus to bring experience into existence, an experience whose matter comes from sense, and whose form comes from pure intuition and thought.³ Without data even the elements of *a priori* cognitions would not be able to arise in thought.⁴

From these and many other passages⁵ we can say that on Kant's view the *a priori* is at work in experience from the start—there is no experience without a form—and it is gradually made clear to consciousness by reflexion. In that sense *a priori* knowledge is acquired and not innate. Kant is not concerned with the question of how experience develops—that is a matter for psychology—but with what is contained in experience,⁶ or with the presuppositions and conditions of experience. He does not suggest that in infancy we begin by knowing space and time and the categories, and then proceed to construct a world of colours and sounds.

All this is perfectly familiar to Leibniz and his school. Indeed it may be doubted whether the crude doctrine that the *a priori* is also temporally prior has been held by serious philosophers. It seems to be attributed to rationalists only through the misunderstandings of their opponents.

Nevertheless Kant habitually uses words like 'before' and 'precedes' in connexion with our *a priori* knowledge, where

¹ A 66 = B 91.

² A 86 = B 118.

³ Ibid.

⁴ A 96.

⁵ E.g. A 196 = B 241; *Diss.* § 14, 5 (II 401), § 15 *Cor.* (II 406); *Streitschrift*, 2. *Abschn.* (VIII 240); *Log. Einl.* II 2 (IX 17).

⁶ *Prol.* § 21a (IV 304).

it is easy to suppose that he is speaking of temporal priority. There is, however, no consistency in such usage, if taken in a temporal sense, and it is frequently applied to the empirical. Intuition is said to precede thought.¹ Knowledge is said to start with the senses, to proceed thence to understanding, and to end with reason.² On the other hand transcendental truth is said to precede empirical and to make it possible,³ and original apperception is said to precede all particular experience.⁴ Where two things reciprocally condition one another, or form necessary parts of a wider whole, Kant seems to use these temporal expressions of either in relation to the other.

In certain cases the *a priori* does involve temporal priority. Thus of any individual circle we can say, *before* we have experienced it, that all the angles subtended by any arc of it will be equal. We might even make discoveries about a particular kind of geometrical figure, *before* we had found any example of that figure in the physical world. Furthermore, if space as known *a priori* is due to the nature of our mind, we can say that our mind has the form of space in it as a potentiality *before* experience begins. Such statements Kant certainly makes, and they are legitimate statements. Where his expressions can be interpreted in this way, it seems only fair so to interpret them.⁵

It is possible that he was at times misled by these legitimate statements into confusing logical and temporal priority, though I think it rash to affirm that he was. What seems to me certain is that such confusion is no part of his essential doctrine, and would have been indignantly denied by him if the question had been put to him explicitly.

Many commentators nevertheless have, to a greater or less degree, put a temporal interpretation on his words, and have supposed him to be giving an account of psychological development. To adopt this view, whether in a crude or in a subtle

¹ B 67; B 132; B 145. Compare A 225 = B 272-3, and also A 89 = B 122.

³ A 146 = B 185.

² A 298 = B 355.

⁴ A 117 n.

⁵ E.g. A 26 = B 42; A 33 = B 49; A 267 = B 323.

form, is to reduce Kant's theory to absurdity. An interpretation which has this result is *prima facie* an unsatisfactory interpretation. It seems only fair to Kant to see whether his doctrines do not appear more convincing, or at any rate more plausible, when interpreted in accordance with his own emphatic statement, and in accordance with what must obviously be the truth, if the existence of *a priori* knowledge is to be admitted at all.¹

For myself, the more I read Kant, the more I am convinced that for him the *a priori* is the logically, or as he calls it the objectively, prior; and I would call especial attention to one passage which is far too much neglected, a passage concerned with time, but applying also to all other *a priori* ideas. Time, he says, is *objectively* prior to all changes, as the formal condition of their possibility. *Subjectively*, that is, in actual consciousness, the idea of time is, *like every other*, given only through the stimulus (*Veranlassung*) of sense-perceptions.² I can conceive no clearer statement of Kant's fundamental position.

§ 4. *Types of a priori Knowledge*

Do we actually possess *a priori* knowledge? Kant gives examples to show that we do.³

Ideas of space and substance are *a priori* ideas. The judgements of mathematics are *a priori* judgements. *A priori* judgements are to be found even in common sense, as for example the judgement that every event must have a cause. Unless such judgements are true, there can be no certainty in experience, and no basis for physical science.

Moreover there is a claim made by metaphysics to possess *a priori* knowledge going beyond experience,⁴ as in the judgement that the world has no beginning in time. Such a claim demands criticism, but the necessity for criticism is overlooked

¹ On this point of interpretation I find myself consistently at variance with Professor Prichard, though I believe that if his interpretation is correct, his criticisms are unanswerable.

² A 452 n. = B 480 n.

³ B 4 ff.

⁴ Ibid.

for three reasons.¹ The first is that the success of mathematics produces an expectation of equal success for metaphysics. This expectation is unfounded, because the success of mathematics depends upon intuition, and there can be no intuition in metaphysics—we cannot intuit the beginning (or absence of beginning) of the world. The second is that in metaphysical thinking we are never in danger of being contradicted by experience. And the third is that a great deal of the *a priori* work of reason consists in mere analysis of our concepts of objects. This is a useful task, necessary to make our concepts distinct.² It does not itself extend our knowledge, but its success encourages us to imagine that by the activity of pure reason we can extend our knowledge without any help from experience.

This raises the question of the distinction between analysis and synthesis, or between analytic and synthetic judgements.³

All analytic judgements are *a priori*: they involve no appeal to experience. This is true even when they depend upon analysis of empirical concepts. With analytic judgements we have no concern in the *Kritik*. They articulate our knowledge, but do not add to it. We are concerned only with *a priori* judgements which extend our knowledge, and these are necessarily synthetic.

How then are synthetic a priori judgements possible? This is the central question of the *Kritik*.

Synthetic *a priori* judgements are to be found in mathematics, in physics, and in metaphysics.⁴ These sciences do not advance by the mere analysis of concepts. Hence we have to consider the synthetic *a priori* judgements of each of these sciences in turn, and to ask how they can be justified. We have no right to assume that they can all be justified in the same way.

This gives us three questions to answer. *Firstly, how is pure mathematics possible? Secondly, how is pure physics (or the pure*

¹ A 4-6 = B 8-10.

² Compare A 65 = B 90.

³ There are other kinds of analysis than that found in analytic judgements, for example, analysis of intuitions. The analysis of which Kant is speaking here is analysis of *concepts* which we already have of *objects*—see A 5 = B 9. In so far as we judge the objects on the basis of such analysis, we have analytic judgements.

⁴ B 14 ff.

part of physics) possible? And thirdly, how is pure metaphysics possible?

The success of mathematics and physics proves *that* they are possible, and our only question is *how* they are possible. It is otherwise with metaphysics, which has behind it a consistent record of contradiction and failure. In the case of metaphysics we have to ask *whether* it is possible, and only if we get an affirmative answer, need we ask *how* it is possible.

In regard to metaphysics Kant substitutes two other questions. Men have a natural disposition towards metaphysical thinking, and we must ask 'How is metaphysics possible as a natural disposition?' We cannot, however, be satisfied merely with an answer to this question. We want to know whether our metaphysical questions can, or can not, be answered. Hence we have a second question, 'How is metaphysics possible as a science?'

The first question is 'How is it that the problems of metaphysics necessarily arise in our experience?'¹ The second question is 'How can these problems be solved?'

Kant believes that his Copernican revolution will re-establish metaphysics as a science. It will introduce a new kind of metaphysics, which will decide whether metaphysics can, or can not, deal with these problems. It will enable us with confidence either to extend the use of pure reason or to set it definite limits.²

The latter alternative is the actual result of the *Kritik*. Kant's metaphysics, as we have seen,³ professes to give us certain and *a priori* knowledge within the limits of experience. If we seek to go beyond the limits of experience, we must do so, not by knowledge, but by faith.

§ 5. *Analytic and Synthetic Judgements*

The turning-point of this discussion is the distinction between analytic and synthetic judgements.

At first sight no distinction would seem to be simpler.

¹ This is not for Kant a psychological question. He is asking why reason must necessarily raise certain problems.

² B 22.

³ Chapter II § 8.

Either the predicate B belongs to the subject A as something which is contained (covertly) in the concept of A—this is an analytic judgement: or else the predicate B lies entirely outside the concept of A, although it is connected with it—this is a synthetic judgement.¹

All analytic judgements, as we saw above, are *a priori*. It makes no difference whether the subject-concept is itself empirical or *a priori*; for if the concept is given, we require no further appeal to experience to make the judgement. Examples of analytic judgements are 'Gold is yellow', and 'All triangles are three-sided figures'.

Synthetic judgements may be either *a posteriori* or *a priori*. 'Gold is found in Siberia' is a synthetic *a posteriori* judgement. 'All triangles have the three interior angles equal to two right angles' is a synthetic *a priori* judgement. In both cases the predicate adds something which is not thought in the concept of the subject, but the second judgement is characterised by necessity and universality, and is therefore *a priori* as well as synthetic.

Is this distinction of analytic and synthetic a subjective distinction, so that what is analytic for one man would be synthetic for another? Kant's language in places might suggest that the distinction is subjective; but this, I think, is true only where the subject-concept is empirical. Thus, speaking of *empirical* concepts, he says that one man can think in the concept of gold a quality (such as not rusting) of which another man may know nothing.² This is obviously true, since empirical concepts are derived from experience, and the experience of different men is different. Hence it seems rather artificial to regard as *a priori* those analytic judgements whose subject-concept is empirical. 'Gold is yellow' is surely no more *a priori* than the judgement 'The house will fall in, if its foundations are undermined'; and this Kant refuses to call completely *a priori*.³

¹ A 6 = B 10. It should be observed that in B 19 Kant claims his distinction to be a novel one.

² A 728 = B 756.

³ B 2. On the other hand, it seems not unreasonable to say that the judgement 'All bodies are extended' is an analytic judge-

In dealing with analytic judgements Kant is primarily concerned with those in which the subject-concept is itself *a priori*. Such judgements he believes to be of real importance in philosophy. Here he certainly regards the concept as containing 'marks'¹ which cohere through the nature of the concept itself, and not through the accident of the individual's experience.

We must presume that the distinction between analytic and synthetic judgements implies a difference in the relation of subject-concept to predicate-concept which, so far as it has any importance, does not differ for different persons. Kant does not mean his distinction to be merely a subjective one.

§ 6. *Analytic Judgements*

The analytic judgement, although it takes place by means of analysis of the subject-concept, is not a judgement about the concept,² but about the objects which are supposed to fall under the concept. 'All bodies are extended' is not a judgement about the concept of body, but about bodies themselves.³ Some analytic judgements of metaphysics may have no object, but their authors intend them to refer to an object.

Still less is the analytic judgement about the meaning of a word. Words unfortunately do not contain their own meaning. It would be easier to learn foreign languages if they did.

An analytic judgement is not a mere tautology, like 'Man is man'. Kant sometimes describes the relation of predicate to subject in an analytic judgement as one of identity, but he does not mean that the subject and the predicate are the same.

ment. We could not know bodies at all without knowing that they are extended, but a blind man might know gold without knowing that it is yellow.

¹ 'Merkmale'. These may be taken as 'partial' concepts which together constitute the whole concept; see Chapter IX § 4.

² Hermann Cohen and Kinkel maintain that it is, but this seems to me both false in itself and un-Kantian; compare A 736 = B 764.

³ Compare A 68-9 = B 93-4. The example there is 'All bodies are divisible'—an analytic judgement.

Analytic judgements make explicit in the predicate what is only implicit in the subject-concept.¹

The difficulty, however, is to know what is implicit, and what is not implicit, in a concept. It might seem to be implicit in the concept of triangle that the interior angles are equal to two right angles; but this Kant would deny to be an analytic judgement.

It might be thought that by analytic judgements Kant meant definitions, or at any rate judgements which state either the essence, or part of the essence, of a thing. Even so, there are obvious difficulties as to what constitutes the essence of a thing. This view is, in any case, not the view of Kant himself. He resents any attempt to equate his distinction of analytic and synthetic judgements with the distinctions previously recognised in logic.²

The logic of the time recognised the following distinctions.³ The *essence* consists of certain primitive and constitutive marks called strictly *essentialia*. The *attributes* have their sufficient ground in the essence, and are derivative from it.⁴ The *modes* (inner determinations) and *relations* (external relations) are not so derivative.⁵

¹ *Log.* § 37 (IX 111). It should be unnecessary to observe that analytic judgements are made by the analysis of a *concept* (the subject-concept) and not by analysis of a *thing* (the subject); yet I find confusion on this point, not only in beginners, but in commentaries on Kant. It is by synthetic judgements that we make analyses of things.

² *Streitschrift*, 2. *Abschn.* (VIII 228 ff), which is the *locus classicus* for this question; compare also B 19. To treat this distinction as familiar to Kant's predecessors—and this is the prevalent view—is to get a distorted idea of Kant's thinking.

³ Compare *Log. Einl.* VIII (IX 60-1); *Streitschrift*, 2. *Abschn.* (VIII 228 ff); *Metaphysik*, p. 24; G. F. Meier, *Auszug* § 121; Baumgarten, *Metaphysica* § 50 (XVII 37). See also Chapter XXXIX § 3.

⁴ The *essentials* in the strict sense and the *attributes* are sometimes described together as *essentialia* (or *ad essentiam pertinentia*). All other marks, whether modes or relations, are described as *extra-essentialia*.

⁵ If the essence is present, the attributes must be present, but the modes and relations need not be. Thus a man may be rational (the essence) without being either learned (a mode) or a master (a relation).

Although all attributes have their sufficient ground in the essence, some must be known by analytic, and others by synthetic, judgements.¹ Thus in the judgement 'All bodies are divisible', divisibility is an attribute grounded on extension, which is part of the essence of body. Given the concept of body and the law of non-contradiction, we can make the judgement, which is consequently analytic. On the other hand in the judgement 'All substances are permanent,' permanence is an attribute grounded on the essence of substance, but it is not contained implicitly in the concept of substance.² Given the concept of substance, we cannot assert, merely by the law of non-contradiction, that all substances are permanent. Hence the judgement, although *a priori*, is synthetic.

The distinction between analytic and synthetic judgements therefore cannot be made by reference to the distinction between essence and attributes.

Kant's theory is not so simple as it looks, and the nature of analytic judgements is not altogether clear. Our main concern is, however, with synthetic judgements.

§ 7. *Synthetic Judgements*

Of synthetic judgements we can say three things. Firstly, the predicate contains more than is contained, even covertly, in the subject-concept. Secondly (another way of saying the same thing), given the subject-concept, we cannot, merely by the law of non-contradiction, make the judgement. Thirdly, to make a synthetic judgement we require, in addition to the subject-concept, something else or what Kant calls a third thing. For the present we may describe this as intuition—empirical intuition if the judgement is *a posteriori*, pure intuition if the judgement is *a priori*.³ The third point, however, cannot

¹ Kant accordingly speaks of analytic and synthetic attributes.

² The concept of substance is here the concept of the ultimate subject of all predicates. In A 184 = B 227 Kant himself says that the proposition 'Substance is permanent' is tautological; but there presumably he has in mind, not the pure, but the schematised, category. Compare Chapter XXXIII § 4.

³ We shall find later that this requires qualification; see Chapter XXXV § 4.

be assumed at the present stage, since it is what Kant hopes to prove.

The judgement that the three interior angles of a triangle are equal to two right angles is a synthetic judgement, because it cannot be made, according to Kant, apart from intuition. It states a necessary attribute of all triangles, but not one which can be discovered by analysing the concept of triangle.

Whatever be the difficulties of the distinction, it can hardly be denied that we make synthetic judgements, and some of these appear to be *a priori*. If so, Kant has a real problem.

We might indeed raise objections of a more fundamental kind. Perhaps it is a false view to regard judgement as an advance from the concept of the subject to the predicate either by analysis or by synthesis. Perhaps every judgement is essentially both analytic and synthetic,¹ necessarily analysing a whole into its parts, and at the same time binding together the parts in a whole. Perhaps it is only in material operations, such as cutting wood and building houses, that analysis and synthesis, breaking up and putting together, can be separated from one another. These and similar objections are highly relevant to a theory of predication, but they obscure, rather than illumine, the problem which presented itself to Kant.

§ 8. *Kant's Problem*

Kant's central problem is 'How are synthetic *a priori* judgements possible?'

This question is not concerned with subjective possibility. It does not ask how we come to make such judgements, but how such judgements can be made truly.² Truth for Kant implies correspondence with reality, and his question, at least in regard to mathematical judgements, has two sides. He is asking how we can pass, on *a priori* grounds, from a subject-

¹ I hope to show later that for Kant himself both analysis and synthesis are present in all judgements; see Chapter XIV § 1. But to say this is to use the words in a different sense.

² The case of metaphysics is rather different, but even there we do not ask how we come to make metaphysical judgements—a psychological question.

concept to a predicate not contained in it—as we do in pure mathematics. He is also asking how such synthetic *a priori* judgements can be true of reality—how for example mathematical judgements can apply to the actual world. These two questions are different, but are not always distinguished by Kant with sufficient clarity.

Kant does not concern himself at first with the question how synthetic *a posteriori* judgements are possible.¹ His explanation is that, in addition to the subject-concept, we must have *something else* which justifies us in ascribing to the subject a predicate not contained in the subject-concept. That 'something else' is our complete experience of the object which is referred to by the subject-concept.

Such is the common-sense answer to the question, and at this stage it is sufficient. For common sense, however, the object is the thing-in-itself. When Kant argues later that the thing-in-itself cannot be an object of experience, it becomes incumbent upon him to explain what an object of experience can be. This is one of the questions with which Kant's philosophy will deal.²

The main point of Kant's problem, however, is this. In synthetic *a posteriori* judgements we have a third thing, namely experience of the object (and ultimately empirical intuition), which justifies us in making our synthesis of subject and predicate. Where are we to find a third thing to justify our synthetic *a priori* judgements? Such a third thing we must have, because *ex hypothesi* we cannot pass to the predicate by mere analysis of the subject-concept. And clearly the third thing cannot be experience; for experience can give us only matter of fact, and cannot give us that strict necessity and universality which is asserted in *a priori* judgements. The justification of synthetic *a priori* judgements in mathe-

¹ A 8, B 12.

² A 104 ff.; A 189 = B 234 ff.; etc. I can see no reason to charge Kant with inconsistency because he does not deal with this problem in his Introduction, but gives us a common-sense answer. It happens also to be the true answer, and it remains true even when we come to recognise that there is an *a priori* element in all experience.

matics, in physics, and in metaphysics, will in each case depend on whether or not we can find this third thing on which to ground the synthesis. When we have found it for mathematics and for physics, we shall have a deeper insight, not only into the nature of synthetic *a priori* judgements, but also into the nature of our ordinary experience.

§ 9. *The Reality of Kant's Problem*

The only way to deny the reality of Kant's problem is to deny the existence of synthetic *a priori* judgements, and to assert that judgements which seem to be such are either not synthetic or not *a priori*.

Mathematical judgements certainly seem to be *a priori*; and even if we seek to overcome the absolute antithesis between *a posteriori* and *a priori*, we can hardly deny that there is a real difference between mathematical judgements and judgements of the type 'All swans are white'. Such a difference requires investigation. It may, however, be maintained that all mathematical judgements are analytic. This view is the predominant view of mathematical logicians at the present time; and if it is true, it cuts the ground from under Kant's feet.

As regards Kant's second type of judgement (which forms the basis of physical science) a different line would have to be taken. 'Every event has a cause' is certainly not an analytic judgement. If we are to reject Kant's starting-point, we must deny that it is an *a priori* judgement, and assert either that it is false, or else that it is a mere hypothesis or postulate. Neither of these views is to be lightly dismissed, but each has its own difficulties.

The third or metaphysical type of judgement—e.g. 'The world has no beginning in time'—is of less importance as a starting-point, but it obviously is not analytic, and it does not rest on experience. The question whether such a judgement can properly claim truth is an important question.

The nature of mathematical thinking and its relation to the empirical world, the ultimate presuppositions of physical science, the possibility of a metaphysical knowledge trans-

ending our finite experience—these are three fundamental problems, which still are, and are likely to remain, of the most pressing concern to philosophy. Kant professes that he is able to solve them, and it would be foolish to quarrel with the terms in which they are stated. Our task is to see what his solution is. And although there are difficulties about his starting-point, we may perhaps still claim that his initial assumptions are sufficiently plausible to justify us in subjecting his argument to further examination.

BOOK II

SPACE AND TIME

CHAPTER IV

SENSE AND SENSIBILITY

§ 1. *The Transcendental Aesthetic*

The *Kritik of Pure Reason*, as a transcendental science, is concerned with our way of knowing objects, so far as that is possible *a priori*.¹

Our way of knowing objects is by means of sensibility and understanding (two powers which may have a common root).² We must consider whether each of these contributes an *a priori* element to knowledge. The part of the *Kritik* which deals with the *a priori* element contributed by sense is the Transcendental Aesthetic. For this purpose Kant first of all isolates sensibility;³ that is to say, he excludes from consideration everything contributed to our knowledge of objects by thought or understanding. Secondly, he isolates the *a priori* element contributed by sensibility. He does so by excluding everything that belongs to empirical sensation. This method of elimination will leave us with pure intuitions, or the pure forms of intuition, which we shall find to be space and time.⁴

§ 2. *Intuition*

At the beginning of the Aesthetic Kant gives us a rather complicated explanation of the terms which he employs. There is a considerable element of ambiguity in what he says, and the full meaning of his terms can be grasped only from their use as the argument develops.⁵ It is a mistake to regard

¹ B 25. It excludes from its consideration such *a priori* knowledge as arises from mere analysis of concepts, and it examines only the sources and limits of synthetic *a priori* knowledge.

It excludes also the *practical* synthetic *a priori* judgements of morality. Compare A 14-15 = B 28-9 and *Grundlegung* (IV 420).

² A 15 = B 29.

³ A 22 = B 36. For other examples of the method of isolation, see A 62 = B 87, A 305 = B 362, A 842 = B 870.

⁴ Compare Chapter V § 9.

⁵ This is explicitly recognised by Kant himself. See *Vaihinger, Commentar*, ii, p. 18.

all his statements as premises, and a still greater mistake to suppose that he is setting forth complete arguments.¹ We must take what he says partly as a statement of what he intends to prove; and this cannot be completely understood on the common-sense level on which we might naturally be supposed to begin.²

I propose to deal only with some points of general importance.

For Kant sensibility is essentially passive, while understanding is active. The former is a receptivity or capacity;³ the latter an activity or power.⁴ Sensibility alone is the source of intuitions, while understanding is the source of concepts. An intuition is a singular idea⁵ (*repraesentatio singularis*); a concept is a general idea (*repraesentatio per notas communes*), an idea of what is common to different objects.⁶

As has often been pointed out,⁷ there is a certain ambiguity in words like 'intuition'. 'My intuition' may mean 'my intuiting' or 'what I intuit'. This ambiguity is to be found in Kant.

¹ In particular the statement that the form of appearances (or sensations) must lie *a priori* in the mind (A 20 = B 34) should, I think, be taken, not as a premise, but as a statement of what is to be proved. It is true that this statement is supported by what looks like an argument—'that in which alone sensations can be arranged and posited in a certain form cannot itself be sensation'. This seems to me to be a summary of the main argument of the Aesthetic rather than an attempt to establish a premise for that argument. If we regard it as establishing Kant's premises it is hopelessly inadequate.

² The beginner is well advised not to linger too long over these preliminary difficulties.

³ *Rezeptivität* or *Fähigkeit*. A 19 = B 33.

⁴ *Spontaneität* or *Vermögen*. A 51 = B 75. The use of *Fähigkeit* and *Vermögen* is, however, not consistent. There seems to be no general term which covers both. For the general term either may be used, although I think the latter is the word more commonly employed.

⁵ *Vorstellung*. This is a general term which covers both intuition (*Anschauung*) and concept (*Begriff*). I usually prefer to translate it as 'idea' rather than as 'representation'. It is sometimes used for 'my intuiting' or 'thinking' as well as for 'what I intuit' or 'what I think'. Where the former sense seems prominent I sometimes use 'representation' as more suggestive of an act.

⁶ *Log.* § 1 (IX 91). Compare B 133 n.

⁷ Kant himself points it out very clearly in a passage the reference to which I have unfortunately lost.

Thus he refers to 'the indeterminate object of an empirical intuition',¹ where 'intuition' would appear to mean 'intuiting'. On the other hand he speaks of space and time as intuitions and not concepts. Here he must mean that they are individual things intuited and not merely common characters conceived.²

There is, however, a special reason for this latter usage. It must be remembered that Kant is not a representative idealist (except in so far as he considers our ideas to be appearances of unknown things-in-themselves). Space and time have for him no reality apart from human minds. They are not things-in-themselves, which happen also to be intuited. Their whole being depends on our intuiting, and calling them intuitions or ideas serves to bring out this view.³

Intuitions in human beings are sensuous. That is to say, they come to us by means of passive sensibility. They are not created by us but simply received. We are able to intuit only so far as an object is given to us, and an object is given to us only so far as it affects our minds⁴ and produces a sensation.

This statement is difficult because of the ambiguity of the word 'object'. The simplest interpretation is to suppose that Kant is speaking on the common-sense level. The object may be taken to be a body, such as a chair. It is given to us so far as it affects our minds through the sense-organs and produces, for example, a sensation of colour.

As we have seen,⁵ Kant analyses the object of common sense

¹ A 20 = B 33-4.

² Space and time (individual things) must be distinguished from spatiality and temporality (the common characters of all spaces and times).

³ Similarly an object such as a house, when viewed transcendently, is said to be, not a thing-in-itself, but an appearance or idea. See A 190-1 = B 235-6. I have not attempted to avoid using 'intuition' for 'what is intuited'—or other expressions of the same kind. The attempt to do so in a detailed exposition of Kant would produce too many complications.

⁴ '*Gemüt*' (mind) is a colourless word which Kant uses to avoid the metaphysical implications of '*Seele*' (soul). It is equivalent to '*Vorstellungsfähigkeit*' (a capacity for ideas). See A 19 = B 34.

⁵ Chapters I § 9 and II § 2. Compare *Prol.* § 13 *Anmerk.* II (IV 289).

into the thing as it is in itself and as it appears to us, or in other words into the thing-in-itself and the phenomenal object. If we suppose this analysis to be already made, Kant's statement (that an object affects our minds and produces a sensation) applies *both* to the thing-in-itself *and* to the phenomenal object.¹

The thing or object which is given to us is, however, given to us only as it appears, not as it is in itself. It is in short given as a phenomenal object. If we speak strictly, even the phenomenal object is given only as regards its matter.² What is *given* to us is, for example, a colour. We *think* that it is the colour of a chair. Without thought, although we might see a colour,³ we could not know that it was the colour of a chair, or indeed of anything.⁴ This is what Kant means when he says that intuitions without the concepts of thought are blind.⁵ Hence without thought there is no determinate object, no phenomenal object in the strict sense. What is given, namely the mere sensum, may be called the indeterminate object,⁶ the object as a mere appearance⁷ to sense apart from thought.

¹ For the non-temporal causality of the thing-in-itself, which does not affect our sense-organ but our mind, see Chapter II § 2. This may be what Kant has chiefly in mind in the present passage. For the causality of the phenomenal object, see Chapter II § 3. Sensations are the product of a double causality.

² At the present stage the 'matter' may be taken as the sensum, the seen colour and heard sound. In some places the matter is said to be the sensation, and in other places it is said (as in A 20 = B 34) to correspond to the sensation. Compare Chapter XXXVIII § 1.

³ Synthesis, and perhaps thought, may be necessary even to see a colour, but this we may for the present ignore.

⁴ To know this we require, not only the empirical concept of chair, but also the category of substance and accident.

⁵ See A 51 = B 75.

⁶ See A 20 = B 34. The indeterminate object is the thing (always in the last resort the thing-in-itself) as it appears to mere sense. The phenomenal object is the thing as it appears to sense and thought. The latter alone is an object, if we speak strictly.

⁷ Compare A 92 = B 125. A 248-9 suggests that the indeterminate object (intuition undetermined by the categories) should be called an 'appearance' (*Erscheinung*), and the determinate or phenomenal object should be called a 'phenomenon'. This distinction is usually neglected by Kant.

At the present stage Kant is not in a position to explain the part played by thought. In any case the phenomenal object, if it is to be a phenomenal object, must *both* be given to sense *and* be thought by understanding.¹ Hence it is not incorrect to say that the phenomenal object must be given to sense: it can indeed be given in no other way.

Sensum

Intuition itself may be analysed into form and matter. The matter is the sensation or sensum,² which may also be called an impression.³ This is the 'effect' of the object which 'affects' our minds.⁴ The form is the space and time in which our sensations are arranged and is due, as Kant hopes to prove, not to the thing affecting us, but to the nature of our minds.

Intuition is immediately related to an individual object⁵ and is distinguished from thought or conception by being so related. Thought is always mediate or discursive,⁶ always related to its object by means of intuition. Here again the word 'object' is ambiguous, and Kant may be speaking on a common-sense level. If we insist on distinguishing the thing-in-itself from the phenomenal object, his primary concern would seem to be with the latter. It must be sufficient to say at present that the

¹ I pass over the fact that we may know phenomenal objects not given directly to our senses, if they are connected by means of the Analogies with objects which are so given. See A 225 = B 272 ff.

² See A 42 = B 60, A 167 = B 209, and compare *Fortschritte der Metaphysik* (Phil. Bib. 46c, p. 91). I pass over the difficulty that the matter of an appearance is said to 'correspond to' sensation. See A 20 = B 34.

³ 'Eindruck' (*impressio*); see *Fortschritte der Metaphysik* (Phil. Bib. 46c, p. 91).

⁴ A 19 = B 34. The 'object' here is again ambiguous. It may be taken, primarily at least, as the thing-in-itself.

⁵ The fact that this relation is said (in A 20 = B 34) to be 'through sensation' does not make it mediate, for sensation is not separable from intuition, but is an element within it. It may be asked whether 'intuition' in this context means 'intuiting' or 'the content of intuition'. On the whole Kant would seem not to distinguish these clearly in such assertions. In intuiting we are directly or immediately aware of the object, and the content of the intuition is the quality of the object. The object consists of such contents combined together in accordance with the categories. Indeed the whole object may be described as (the content of) one intuition.

⁶ See Chapter X § 7.

phenomenal object (such as a chair or a table) is directly and immediately given to intuition. Whatever be the part played by thinking, when we feel the hardness and see the colour of a chair, our minds are in an immediate relation to the chair, and the chair is so far immediately present to our minds.¹

§ 3. *Sense and Understanding*

It is an essential part of Kant's doctrine that both sense and understanding, both intuition and conception, are necessary for knowledge of objects.² Through sense objects are given, and through understanding they are thought.³ Thoughts without the content of intuition are empty, and intuitions without the concepts of thought are blind.⁴

There is therefore an abstraction involved in dealing with sensibility by itself, and the Aesthetic is a provisional and incomplete account of our knowledge of space and time. In awareness of space and time as individual objects thought is always involved.⁵ Thought gives us the synthesis without which there is no unity in any object. This necessary synthesis is in the Aesthetic ignored, but there is no more reason to suppose that Kant was unaware of this fact here, than there is in the corresponding parts of the *Prolegomena*. The provisional exclusion of the part played by thought must always be borne in mind.

¹ I pass over many difficulties here : for example, that the secondary qualities may differ for different individuals, and also that if we are to have intuition, there must be present an element of synthesis, and so of imagination.

² When Kant speaks either of sense or of understanding as if they gave us knowledge in separation from one another, this is a loose employment of the term 'knowledge'. In the phrase 'knowledge of objects' the word 'objects' refers to phenomenal objects.

³ A 15 = B 29.

⁴ A 51 = B 75. Compare A 258 = B 314.

⁵ B 160 n. Compare A 99-100. Though space is here spoken of as an 'object', strictly speaking neither space nor time is an object. An object must be an appearance of things-in-themselves and must be given in empirical intuition. Space and time are only conditions of objects, but we may call them individual objects by a kind of analogy. See A 291 = B 347, and compare B 147 and A 156-7 = B 195-6.

§ 4. *Outer and Inner Sense*

Sense for Kant covers both outer and inner sense.¹ By outer sense (which includes sight, hearing, etc.) we are aware of objects in space.² By inner sense we are aware of our own states of mind in time. Both inner and outer sense give us only phenomena, and not things-in-themselves.

The doctrine of inner sense has often been criticised. It gives rise to difficult problems, both in Kant's system and in itself. Yet in itself it is by no means unreasonable. For Kant an *immediate* cognitive relation to an individual object is possible only through intuition, and intuition ~~is given~~ only by means of sensibility.³ As we have clearly such an immediate cognitive relation to our own individual states of mind, it is not improper to say that we have an inner sense.

It must be remembered that by states of mind Kant does not mean the seeing as opposed to the seen. All the stuff or ~~matter~~ ^{stuff} of inner sense (so far as it is matter for *knowledge*) comes to us from outer sense.⁴ The stuff of inner and the stuff of outer sense overlap, if they do not coincide.⁵ By inner sense

¹ A 23 = B 38.

² I think the word 'outer' may imply also that we are in contact with something other than ourselves.

³ A 19 = B 33. Compare *Log.* § 1 (IX 91).

⁴ B XXXIX n.; B 67; compare A 34 = B 50, and A 34 = B 51. The phrase in brackets may exclude feelings and desires (and perhaps thoughts), which are also known through inner sense (A 357-8). By 'matter for knowledge' Kant seems to mean 'matter for knowledge of objects' (as opposed to *subjects*). In B 66 the feeling of pleasure and pain and the will are excluded from things in *knowledge* which belong to intuition. This exclusion may perhaps qualify the assertion in B 67, where the ideas of outer sense are said to constitute the proper stuff with which we occupy our mind. If Kant holds that the matter of feelings and desires comes from outer sense, we certainly require a fuller explanation of this view. In A 357 he denies that thought, feeling, inclination, or resolution can be objects of outer intuition.

⁵ See for example A 98-9, and compare A 34 = B 51, where Kant says that by means of inner intuition we grasp also all outer intuitions in our mind. This is confirmed by *Anthr.* § 7 and § 9 (VII 141, 142 and 144). E.g. Kant says sense-perceptions can be called only inner

we are immediately aware, not only of our feelings and desires, but also of the stream of ideas which, whatever else they are, are for Kant modifications or states of our minds. Even if colours are things-in-themselves, or qualities of things-in-themselves, they modify or qualify the mind in the sense of coming before it at one time and not at another. Of this fact we are immediately aware. Others may infer that I am seeing a red pillar-box now, and they may be right. But I, and I alone, can have immediate knowledge of its presence to my mind at the moment. Such immediate knowledge is for Kant impossible apart from sensuous (or passive) intuition. It is concerned with something internal or private to ourselves,¹ and therefore Kant speaks of inner as opposed to outer sense.²

It is more remarkable that just as space is the form of outer sense, so time is the form of inner sense. This means that time cannot be intuited outwardly, any more than space can be intuited as something in us.³

The use of the words 'inside' and 'outside' in regard to the mind always leads to confusion. Space, for example, is certainly 'in us', if to be 'in us' means to be an object of knowledge. It is also 'in us' as well as outside of us, if to be 'in us' means to be in our bodies.⁴

Nevertheless, if we may put Kant's point in another way, our minds seem to last through time, as they do not seem to extend through space. We are immediately aware only of colours or other sensa, and perhaps bodies, as in space. If we

appearances. Compare *Die falsche Spitzfindigkeit* (II 60), where inner sense is said to be the power of making one's own ideas an object of one's thought.

¹ In the sense that I alone have *immediate* knowledge of a thing's presence before *my* mind. This does *not* mean that the thing present to my mind is itself necessarily a private, and not a common, object.

² The doctrine of 'inner sense' is to be found not only in Locke, *Essay* II, 1, Sect. 2 ff., but in Baumgarten, *Metaphysica* § 535 (XV 13). According to Erdmann (*Kriticismus*, p. 51) it is also to be found in Tetens, *Philosophische Versuche*, Bd. I, *Versuch* I, No. VII.

³ A 23 = B 37. Compare Chapter VII § 2.

⁴ In A 373 'outside us' (when it does not refer to things-in-themselves) means simply 'in space'.

think of minds as being in space, we do so because we ascribe to them the space occupied by the body with which they seem to be connected. On the other hand, we seem to be immediately aware of our minds as living through time, or at least to be immediately aware of the stream of our ideas as continuing through time.

Kant's view implies that we are immediately aware only of our own mental evolution as in time, and that we have not this immediate awareness of the changes in the physical world. The negative side of this contention must be considered later.¹

No attempt is made by Kant to show by *a priori* reasoning that there must be inner and outer senses, or that there must be two pure forms of intuition and two only. This has simply to be accepted as a fact.² He does, however, argue that other ideas—such as motion and change—which belong to sensibility presuppose something empirical.³

* Kant's theory of inner sense must be reserved for subsequent consideration.⁴ It is commonly held that this part of his doctrine is confused, and there can be no doubt that it ought to have received fuller treatment. All I maintain here is that it is not to be dismissed at the outset as obviously unreasonable.⁵

§ 5. *The Form of Intuition*

At first sight Kant seems to use expressions like 'form of appearances', 'form of sensibility', 'form of intuition', and 'pure intuition', almost as if they were interchangeable.⁶ It is important to distinguish these from one another, even if in so doing we make Kant's exposition a little tidier than it actually is. We are here concerned with the meaning of these expressions, not with their justification or truth.

Everything that appears to sense must be capable of being

¹ See Chapter VII § 2.

² B 146

³ A 41 = B 58; B 3.

⁴ See Chapters LII–LIII.

⁵ The fact that there is no physical organ of inner sense, as there is of the outer senses, is irrelevant. The characteristic of sense for Kant is not its relation to a physical organ, but simply its passivity.

⁶ A 20–2 = B 34–6.

ordered in spatial and temporal relations.¹ Space and time are the conditions of such ordering, and so are the conditions of the possibility of appearances. As such, space and time are forms of appearances.²

As forms of all appearances space and time are known to be necessary and universal. Hence we may say that our ideas of space and time are *a priori* or pure³—they cannot be dependent on experience or sense-perception, which can never give us strict universality or necessity. On Kant's theory such ideas must be due to the nature of the knowing mind, in this case to the nature of our sensibility. This implies further that the *content* of our ideas,⁴ namely space and time themselves, are due to the nature of our sensibility. They are forms under which alone we can sense appearances, and are necessarily imposed on appearances by the nature of our sensibility. This doctrine is expressed in the statement that space and time are forms of sensibility.⁵

On this view space and time are potentially present in our sensibility even before experience begins. I do not think Kant believes that space and time are actually present to our minds before experience begins.⁶ But the expression 'form of sensi-

¹ B 34; compare A 20. Such relations are 'outside' and 'beside' for space, and 'before' and 'after' for time. It is difficult to be sure whether Kant attaches any special meaning to '*capable* of being ordered' (*geordnet werden kann*). This is peculiar to the second edition. It is perhaps possible that he is alluding vaguely to the necessity of synthesis in our apprehension of objects as spatially and temporally related.

² 'Appearances' is here used in a neutral sense. It is not yet implied that appearances are mind-dependent.

³ See B 3-4 and compare Chapter III § 2. In A 21 = B 34 ideas are said to be pure 'in the transcendental sense' when they contain nothing belonging to sensation. This takes into account the question of *origin*, but only in a negative way. The statement that such ideas are due to the nature of the mind is a further step.

⁴ As we saw above, Kant himself does not make this distinction, but speaks of space and time as ideas.

⁵ This definitely commits us to the subjective character and origin of space and time. The phrase 'form of appearance' does not so commit us, though when we think it out, it implies this conclusion. See A 26(b) = B 42(b). ⁶ Compare again A 452 n. = B 480 n.

bility' has a certain ambiguity. It may be applied, not to space and time, but to that characteristic of our sensibility in virtue of which we can sense things only in temporal and spatial relations. This characteristic does exist in every human being even before experience begins.¹

There is a clear distinction between 'form of appearance' and 'form of sensibility', the latter alone implying the subjectivity of space and time.

'Form of intuition' may be taken as equivalent to 'form of appearance', so far as 'intuition' is equivalent to 'appearance'. So far as 'intuition' means 'intuiting', 'form of intuition' is akin to 'form of sensibility' (or 'form of sense'); it has then the same subjective implication and the same ambiguity.²

Form is essentially the form of matter, and when we speak of space and time as 'forms', it is convenient to think of them as the *relations* in which our sensa are given. We might perhaps even say that they are the whole scheme or system of relations in which sensa are given.³ Sensa are given as outside and beside others, and before and after others. Space and time are the ultimate system of relations which make such particular relations possible. They are thus the *conditions* under which alone sensa can be ordered in such particular relations.⁴

§ 6. *Pure Intuition*

When we separate the form from the matter, that is to say, when we abstract the spatial and temporal relations from the

¹ 'A form of sensibility', when used in this second meaning, is the source of space and time, but it ought not to be equated with space and time themselves. The ambiguity of this phrase obscures Kant's exposition, if it does not confuse his thought.

² In A 267 = B 323 the form of intuition is explicitly referred to as a subjective characteristic (*Beschaffenheit*) of sensibility.

³ The objection to this is that in the second edition (B 160 n.) Kant speaks as if the form had no unity. The unity of space and time comes from the synthetic activity of the mind. Compare A 99-100, B 137-8, etc.

⁴ Kant, it should be noted, habitually equates 'form' and 'condition'.

objects which stand in these relations, we have *pure intuition*. In spite of occasional ambiguities of language, Kant makes it clear that we obtain our intuitions of space and time by abstracting from sensible objects or by the elimination of sensible objects.¹ Space and time as forms of appearances are, as it were, embedded in given appearances. In pure intuition they are known in isolation, and they also acquire a unity which as mere forms they lack.² This unity is impossible without thought—but we are not concerned with thought in the Aesthetic.

The reason why Kant passes so easily from the form of intuition to pure intuition can now be seen. *The form of intuition* is or contains³ the relations (or system of relations) in which appearances stand. *The content of pure intuition* is these same relations, abstracted from sensible appearances, and taken together as forming one individual whole. Space and time are at once the forms of appearances and the content of pure intuition. Indeed a necessary and universal form, if it is known by intuition, must be known by pure intuition; and a pure intuition, if it is to have any content, must find its content in pure form and not in sensible matter.⁴

Kant makes his doctrine more difficult by saying, not that space and time are the contents of pure intuitions, but that they *are* pure intuitions. This phrase serves, like the phrase

¹ Note especially A 27 = B 43 and compare *Prolegomena* § 10 (IV 283). In A 20-1 = B 35 we get the pure intuition of space by leaving out of the idea of a body (1) what is implied by thought (substance, etc.) and (2) what belongs to sensation (colour, etc.). The same method is employed in B 5-6, and in A 22 = B 36 it is said to be the method of Transcendental Aesthetic itself. This is confirmed by the second argument in the *Metaphysical Exposition* (A 24 = B 38-9 and especially A 31 = B 46). For a very clear statement, see *Streitschrift* (VIII 240). ² B 160 n.

³ In B 67 the form is said to contain nothing but relations. 'Is' and 'contains' are habitually used by Kant as meaning the same thing.

⁴ Compare *Prolegomena* § 9 (IV 282) and § 10 (IV 283). The first passage implies that pure intuition must *contain* nothing but the form of sensibility, and the second that pure intuitions must *be* the forms of sensibility.

'form of sensibility', to indicate that space and time are mind-dependent.¹

Pure intuition is *pure* or *a priori*, because it eliminates the empirical element of sense, and contains only the necessary and universal relations in which sensible things appear. It should, however, be noted that space and time are not only necessary and universal conditions of experience. They have in themselves, even when abstracted from experience, a certain necessity and universality; for in knowing them we know, apart from experience, what all their parts must be. Our intuition of them is pure, inasmuch as it is intuition of a whole whose parts can be known independently of experience. This second sense is not clearly distinguished by Kant from the first sense.²

Pure intuition is *intuition* (and not conception), because it involves an immediate cognitive relation to an individual object³—there is only one space and one time.⁴

Pure intuition is said to contain an *a priori manifold*, a manifold which is not a manifold of sense, but is given because of the nature of our sensibility.⁵ This manifold is composed only of relations (spatial and temporal).⁶ It is at once the content of pure intuition and the form of (empirical) intuition.⁷

¹ Nevertheless in the Metaphysical Expositions, where Kant proves that space and time are pure intuitions, he is not arguing that they are dependent on the mind, but only that they are known by pure intuition.

² We shall see later that these two senses are closely connected with one another. See Chapter VII § 4.

³ Space and time are objects only by courtesy. Compare A 291 = B 347.

⁴ Perhaps it is also intuition, because its content is the form of *sensible* appearances. It is bound up with our sensuous nature and is not (like the categories) a product of understanding alone. Compare Chapter VIII § 1.

⁵ Compare A 25 = B 39, A 77 = B 102, A 77 = B 103, A 99–100.

⁶ The word 'manifold' or 'manifoldness' is meant to indicate a multiplicity which in itself has no unity. Yet when we speak of 'a' manifold or multiplicity, the article 'a' suggests that unity which we wish to deny.

⁷ Compare B 136 n., B 137, B 160 n. In the last passage the form of intuition is said to give merely the manifold, while formal (or pure) intuition gives the unity of the idea.

Because space is a pure intuition, pure geometry is possible; because space is the form of intuition, pure geometry must apply to the sensible world.

Every part of space and time (and therefore every geometrical figure) is also a pure intuition.¹ It can be known in abstraction from given sensations.²

¹ Compare A 29.

² Geometrical figures can be constructed *a priori* in accordance with a concept, but the question of construction must be raised later.

CHAPTER V

SPACE AND TIME—THE METAPHYSICAL EXPOSITION

§ 1. *Kant's Question*

We are now in a better position to understand the central question of the Aesthetic. Kant believes that space and time are the necessary condition¹ under which alone objects can be given to our senses, and that they are due to the nature of our human sensibility. This has to be proved, and cannot be assumed. He therefore asks the general question 'What are space and time?'²

The question suggests three possibilities: Are they (1) real things?³ Or (2) are they only (inner) determinations⁴ or (outer) relations of real things—that is, of things-in-themselves? Or (3) do they belong only to the form of intuition, do they depend on the subjective constitution of the human mind? The first view was held by Newton, the second (or something like it) by Leibniz, and the third by Kant.

§ 2. *Metaphysical and Transcendental Expositions*

There is a difference in the order of exposition in the two editions of the *Kritik*. In the first Kant lumped all his arguments together. In the second he distinguishes two different methods of argument, and separates the Metaphysical from the Transcendental Exposition. He fails to carry this out consistently. In the case of time the transcendental argument is allowed to remain in the middle of the metaphysical argument;⁵ and

¹ B 29. He changed this from 'conditions' in A 15, but carelessly retains the plural in B 30 = A 16. The change is probably due to Kant's desire to connect space and time together as the condition under which all objects must be given. See Chapter VII § 1.

² A 23 = B 37.

³ *Wesen*.

⁴ 'Determinations' (*Bestimmungen*) are here contrasted with relations, but in other places they cover relations, e.g. in A 26 = B 42.

⁵ Argument 3.

transcendental considerations are retained at the end of the third metaphysical argument for space, and at the end of the fourth metaphysical argument for time.

A *metaphysical* exposition of an idea¹ analyses the idea *by itself*, and by analysis shows it to be given *a priori*.² A *transcendental* exposition of an idea exhibits it as a principle in the light of which the possibility of *other* synthetic *a priori* cognitions can be understood. It shows (1) that other synthetic *a priori* knowledge is derived from the idea, and (2) that such knowledge is possible only if the idea is explained in a particular way³ (namely as given *a priori*). In the present case synthetic *a priori* propositions (especially those of mathematics) are shown to be possible only if space and time are explained to be *a priori* intuitions.⁴

The Metaphysical and Transcendental Expositions of space and time are roughly parallel⁵ to the Metaphysical and Trans-

¹ B 38. The word '*Begriff*' is here (as frequently) applied to space and time, but '*Begriff*' strictly speaking is a concept, not an intuition. It is better to speak of space and time as 'ideas', for 'idea' (*Vorstellung*) covers both intuition and concept. '*Vorstellung*' means what is set before, or presented to, the mind.

² I take this to mean only that the idea, as necessary and universal, is not 'borrowed from', or dependent upon, experience. The positive statement of its origin must come later.

The use of the word 'metaphysical' in this connexion may possibly have suggested itself to Kant because he believed that the chief value of existing metaphysics consisted in analysis of concepts without any reference to the possibility of their objects. Compare A 5-6 = B 9-10.

³ B 40.

⁴ The Transcendental Exposition of space (though not of time) goes further, and 'explains' that space must be in the subject as a form of sensibility. Strictly speaking, a transcendental exposition ought to take into account the origin of the idea, but for the sake of simplicity it is better to reserve the question of origins for the 'conclusions'. In some ways the introduction of this distinction in the second edition disturbs the natural development of Kant's argument. There is also a certain awkwardness in speaking as if a part of the Aesthetic were transcendental in a special sense, when the whole argument of the Aesthetic is transcendental, as is indeed shown by its very name.

⁵ The parallel is a very rough one indeed, for both the Metaphysical and Transcendental Deductions deal with the *origin* of the categories,

cendental Deductions of the categories. Kant even speaks¹ of a transcendental *deduction* of space and time, but this would appear to cover the whole argument of the Aesthetic, including the 'Conclusions'.²

§ 3. *The Metaphysical Exposition*

In the Metaphysical Expositions Kant fails to maintain the precise parallelism between space and time at which he aims. There is no obvious reason for the variations introduced, and the parallelism is sufficiently close for us to consider the two expositions together.

The Metaphysical Exposition falls into two parts. The first part is intended to prove that space and time are not empirical, but *a priori*, ideas. The second part is intended to prove that space and time are intuitions, not concepts. Both together would then prove that space and time are *a priori* or pure intuitions.

Kant's argument is complicated, and obscured, by the fact that he does not distinguish clearly between 'pure intuition' and 'form of intuition',³ nor between two different senses of *'a priori'* as applied to our ideas of space and time. The first part is concerned primarily with space and time as forms of appearance (or forms of intuition). In it the doctrine that space and time are *a priori* ideas means that they are known to be universal and necessary conditions, or forms, of all possible appearances. In the second part, if there is any argument to show that space and time are not only intuitions, but

and there are no 'Conclusions' distinct from the Deductions. The Metaphysical Deduction may, however, be said to consider the categories *in themselves*, and the Transcendental to consider them in their relation to *other* knowledge. Even this distinction must not be pressed too far either in regard to the categories or in regard to space and time. Compare also Chapter XI § 10.

¹ A 87 = B 119 and *Prol.* § 12 (IV 285).

² Kant's statement can have no reference to the distinction between a Metaphysical and a Transcendental Exposition, since in the first edition this distinction had not yet been made.

³ See, for example, the fourth argument in regard to time. A 31-2 = B 47.

pure intuitions—and Kant's language might suggest that there is—then 'pure' (or '*a priori*') is used to indicate that the parts of space and time are known only as limitations of the whole space and time.¹ This means that in knowing space and time we can know, without recourse to experience, what their parts (spaces and times) must be.

There is in the Metaphysical Exposition only the argument that space and time are at once pure intuitions and necessary forms of appearances (or forms of intuition). The view that space and time have their origin in the mind, and that consequently things appear to us as different from what they are in themselves—all this belongs to the 'Conclusions' drawn later, not to the Exposition itself.

§ 4. *Space and Time not Empirical but a priori Ideas*

The first part of the Metaphysical Exposition contains two arguments.

The first argument is the negative one that space and time are not empirical ideas, while the second argument maintains positively that space and time are *a priori* ideas.

The ideas of space and time cannot be 'derived'² or 'borrowed'³ from experience, because the ideas of space and time are presupposed by experience.⁴ If *sensa* are to be related to physical objects outside my body,⁵ and even if they are to be known as outside and beside, and before and after, one

¹ Compare Chapter IV § 6, where it is pointed out that intuition is pure in two senses. In both senses the word 'pure' (or '*a priori*') implies that our knowledge is independent of experience and has no sensible content.

² A 23 = B 38. '*abgezogen*'.

³ '*erborgt*'.

⁴ This does not mean that our ideas of space and time are necessarily explicit. They may be 'obscure' (*dunkel*), that is, not immediately present to consciousness. See Chapter XIX § 8.

⁵ Kant refers to sensible objects (not merely to *sensa*), although the nature of the sensible or phenomenal object has not yet been made clear. It should be noted that although all appearances (even those in dreams) are spatial and temporal, it is only objects (in the strict sense) which have a determinate position in one common time and space. This distinction is not made clear till later, and then not adequately.

another (as they must be in human experience)—then clearly space and time are already presupposed, whether we are aware of this or not.¹ To know² things (whether *sensa* or objects) as outside and beside one another is not merely to know qualitative differences in them:³ it is to know them as in different places, that is, in different parts of space. Similarly to know things as simultaneous or as successive is not merely to know qualitative differences in them: it is to know them as occurring in one and the same time or in different times, that is, in one part or in different parts (or moments) of time.

Kant's main argument is that the *particular* spatial and temporal relations in which *sensa* (and consequently objects) are given cannot be reduced to mere qualitative differences, and that space and time are presupposed as conditions of such particular relations.⁴ There may also be a suggestion that the ideas of space and time are not abstracted from given *sensa* (or objects) in the same way as empirical concepts of a common characteristic (like redness or colouredness) are abstracted.⁵ This subsidiary contention is by no means clear: it ought not to be interpreted as an assertion that we know space and time before experience begins.

So far Kant's position has been stated negatively—space

¹ Just as all thinking presupposes the law of non-contradiction, whether we are aware of this or not.

² Unfortunately English has no word corresponding exactly to '*vorstellen*', which may mean either to intuit or to think or to do both together and therefore to know. Hence unless we employ an un-English word like 'represent', we are compelled to make more definite what in German is left vague.

³ I take '*bloss verschieden*' in A 23 = B 38 to refer to qualitative differences.

⁴ Compare *Diss.* § 14, 5 (II 400): *Quod autem relationes attinet s. respectus quoscunque, quatenus sensibus sunt obvi, utrum nempe simul sint, an post se invicem, nihil aliud involvunt, nisi positus in tempore determinandos, vel in eodem ipsius puncto, vel diversis.* See also *op. cit.*, § 14, 1 and § 15 A (II 398-9 and 402).

⁵ For the different kinds of abstraction, see § 9 below. This suggestion touches upon the distinction between a concept and a pure intuition which is dealt with later. Our ideas of space and time are not merely concepts of common qualities, or common relationships, of spatial and temporal objects.

and time are not empirical ideas. We may state it positively by saying that space and time (as conditions of the spatial and temporal relations in which appearances must be given) are conditions of appearances. We cannot know appearances apart from space and time.

The second argument goes further and maintains that we can know space and time apart from appearances. The first argument by itself is not enough to establish the logical priority of space and time; for space and time might stand to appearances in a symmetrical relation, and appearances might be the condition of space and time just as much as space and time are the conditions of appearances.¹

Space and time are necessary and *a priori* ideas. The reason for this is that we can think away objects of experience from space and time, and still have space and time left; but if we try to think away space and time from objects of experience, we have nothing left.² It follows that space and time are not 'determinations'³ logically dependent upon appearances; they are the conditions of the possibility of appearances and are logically prior to them.

This argument has been much criticised in modern times, but Kant is trying to state something which is true.⁴

If we attempt to think of any object—whether we take as our example a colour, or an object proper such as a tree—if we try to think of it as having no spatial or temporal characteristics, it becomes nothing at all.⁵ It is more difficult to be sure

¹ For example in space-time space is the condition of time and time the condition of space, so that neither is prior to the other (Kant himself in such a case would probably speak of either as prior to the other). We shall see later that matter (or sensation) is as necessary to experience as form, but that this fact does not annul the distinction between form and matter or between the *a priori* and the empirical. See Chapter VII § 4.

² Kant states this argument more clearly for time than for space.

³ '*Bestimmungen*.' This word covers both internal qualities and external relations. I have sometimes translated it as 'characteristics'.

⁴ Compare Alexander, *Space, Time, and Deity*, Vol. I. p. 39.

⁵ Unless perhaps we regard it as an unknown thing-in-itself.

that we can have an idea of a space or time in which there are no objects. Yet even here, although a tree, if it is to be a tree, must occupy space and last through time, we could have space and time, and even this space and time, if this tree (or all trees) had never existed. That is to say we can be aware of space and time apart from any individual object, though we cannot be aware of any individual object apart from space and time.

Does Kant mean we can be aware of space and time apart from all objects of experience? Certainly we cannot *perceive*¹ empty time or empty space; he insists on this over and over again in the Analogies in regard to time,² and the same doctrine is set forth about space in the *Metaphysische Anfangsgründe der Naturwissenschaft*. To perceive time and space, we must perceive things in time and space, and we get the ideas of absolute or empty time and space only by eliminating or thinking away objects in time and space.³

Newton presumably believed that we could be aware in some sense of absolute space and time, and even that absolute space and time could be real things, apart from what is in them. This is not Kant's doctrine. What he holds is that in geometry⁴ we can study space as an individual thing in abstraction from the empirical objects in it, and that something similar is possible also in the case of time. We do so by constructing geometrical figures *a priori* in pure intuition,⁴ although these involve, and are even said to be, appearances present to the senses.⁵ We can also be aware of space and time as unique wholes, and say that space has three dimensions, while time has one;⁶ but even such fundamental principles would have no meaning (that is,

¹ 'wahrnehmen.'

² E.g. B 219. Compare also *Fortschritte der Metaphysik* (Phil. Bib. 46c, p. 103), a passage which deals with both time and space.

³ For a more elaborate account of our idea of absolute space, see *M.A.d.N.* 1. *Haupts. Erkl.* 1. *Anmerk.* 2 (IV 481).

⁴ B 137-8. The necessity for construction cannot be introduced into the Aesthetic by Kant, because it involves synthesis, and synthesis is reserved for discussion in the Analytic.

⁵ A 240 = B 299. Compare Chapter VII § 7 and also B 147.

⁶ Compare A 239 = B 299 and A 31 = B 47.

no objective reference), unless we could exhibit their meaning in relation to empirical objects;¹ and our idea of space or time would be a mere 'schema' apart from the activity of reproductive imagination in calling up objects of experience.² However much we can think of space or time as empty of any particular objects, there must be some sort of reference at least to possible objects; and we can know particular spaces and times only by knowing the objects which they contain.

—In speaking of space and time as individual wholes we are passing to the second part of Kant's exposition, which is concerned with space and time as pure intuitions rather than as forms of appearances. But so far we can affirm Kant to be right in saying that space and time have a unique status in experience; and this status is described not improperly in the assertion that space and time are the necessary and universal conditions of the possibility of experience. Apart from them the given manifold of appearance could not be arranged in those relations of outside and beside, and before and after, in which it always is arranged—and indeed must be arranged, if we are to have human experience at all. Space and time are thus the *a priori* forms of all appearances.³

§ 5. *Space and Time not Concepts but Intuitions*

The third and fourth arguments (in the case of time the fourth and fifth arguments)⁴ are directed to show that space and time are not concepts but intuitions.

¹ A 240 = B 299.

² A 156 = B 195.

³ It should be noted that Kant himself might have regarded the first two arguments, and especially the second—compare *Prol.* § 10 (IV 283)—as proving not that space and time are forms of appearances, but that they are pure intuitions. In that case, however, we must take pure intuition to mean primarily an intuition whose content is the form (or formal relations) in which all appearances are, and must be, given. In the later arguments pure intuition is considered in abstraction from appearances.

⁴ Where we deal with space and time together, it is simpler to suppose that the third argument on time has been removed to the *Transcendental Exposition*, and the fourth and fifth arguments renumbered.

A concept,¹ as we saw above,² is a *general* idea containing the common marks of different individual objects. An intuition is a *singular* or individual idea, that is, an idea of an individual object. I conceive triangularity, but I intuit this triangle.

The reasons why space and time are intuitions³ and not concepts are (the third argument) that space and time are one, and (the fourth argument) that space and time are infinite.

These two arguments are not sharply distinguished. Arguments used in connexion with the oneness of space are used also in connexion with the infinity of time.

§ 6. *Oneness of Space and Time*

The first argument is simple. Different spaces are all parts of one space, and different times are all parts of one time. Space and time are therefore one and individual, and as such must be known primarily by intuition and not by conception.⁴

In regard to space there is added a further argument, which must apply equally to time.⁵

We have spoken of different spaces as parts of one all-embracing space. It must not be thought that we know these

¹ *Log.* § 1 (IX 91). Kant objects to the phrase 'general concepts' (or 'common concepts'), because this applies to all concepts. Nevertheless he himself has to speak of a general or universal concept (spatiality) in connexion with space, because he sometimes uses the word 'concept' (*Begriff*) for the intuition of space.

² In Chapter IV § 2.

³ For the meaning of this, see Chapter IV § 2. It might be better to say that our 'ideas' of space and time are intuitions not concepts. Kant does say that the 'idea of space' is an intuition (B 40), but he also speaks of the 'idea time' (A 32 = B 48).

⁴ Kant, as usual, speaks of space, not as known by intuition, but as *itself* pure intuition (A 24-5 = B 39). In the case of time he says that the idea which can be given only through a single object is intuition (A 32 = B 47). Time itself he describes as a pure form of sensible intuition.

⁵ The beginning of this further argument may be regarded as merely expanding and explaining what is already said; but it may be taken to state a new point—that space is not only an individual whole of parts (which must be known by intuition), but also an individual whole which is logically prior to its parts (and therefore known by *pure* intuition).

different spaces, so to speak, in themselves, and that the all-embracing space is a mere aggregate of such different spaces. On the contrary, these different spaces must be thought of as *in* the one all-embracing space. They are known only as limitations of the one all-embracing space, which must be presupposed from the beginning.¹

It is not so clear why this contention should lead to the conclusion that space is known primarily by intuition. This indeed follows from the fact that space is 'essentially one',² a whole which is logically prior to its parts; but there is a further point to be made. Kant is not denying that we have a concept of spatiality, a concept of the characteristics or 'marks' common to all different spaces, or, as he calls it, 'a *universal* concept of spaces in general'.³ His argument seems to be (1) that one common mark of the many different spaces is that they are necessarily limited; and (2) that consequently our concept of spatiality is derived from our immediate intuition of spaces as necessarily limited.⁴ The intuition of spaces as necessarily limited presupposes a pure intuition of one all-embracing space. Hence our concept of spatiality presupposes a pure intuition of one all-embracing space. In other words, one pure intuition of space must underlie all our concepts of spatiality.⁵

¹ I do not think that Kant means that we first know the all-embracing space, and then know the many spaces. I think he means that any given space is known as a part of a wider space, and that if we think this out, we shall find that every given space implies an all-embracing space of which it is a limitation. The all-embracing space is logically prior to the many spaces.

² 'wesentlich einig.'

³ A 25 = B 39.

⁴ 'The manifold in space, and therefore the universal concept of spaces in general, rests only upon limitations.' The 'manifold' here is the pure manifold.

⁵ The fact that Kant uses 'space' both for individual space and for spatiality makes him difficult to follow. What I describe as concepts of spatiality are called in A 'concepts of *spaces*' (*denselben*), and in B 'concepts of *space*' (*demselden*). It is difficult to see why 'concepts' is used in the plural—perhaps because space has many common marks. It is also difficult to see the reason for the change made in B, since the concept is said immediately above to be a concept of *spaces* in general (as indeed must be the case if it rests on

This second argument may be intended to show, not only that our knowledge of space is intuitive, but also that it is *a priori*.¹ If so, our knowledge is here shown to be *a priori*, not in the sense of being knowledge of the necessary conditions of appearances, but in the sense of being knowledge of a whole whose parts are known independently of experience.²

In this respect space as one whole of parts is on a different footing from such a whole as the totality of colours.³ The totality of colours is also an individual whole, but it is so only as a collection or aggregate of individual appearances with a common observed characteristic (colouredness); and it can be known only by completing the series of empirical intuitions of these appearances. Space is a different kind of individual whole, such that knowing it we can say what its parts must be. Hence it is known by pure intuition, not by a series of empirical intuitions.⁴

limitations). Perhaps the change was made through the proximity of the phrase '*in Ansehung seiner*' ('in regard to space').

Vaihinger (*Commentar*, ii, p. 223) takes Kant's argument to be that only in the case of intuition does the whole precede the parts; in the case of the concept the parts always precede the whole. But Kant does not here make this view of the concept explicit. The word '*Bestandteile*' is indeed used for the 'parts' of a concept in *Log. Einl.* V (IX 35), but it is not the usual technical term.

¹ It is possible that the third and fourth arguments of the Metaphysical Exposition are intended only to prove that space and time are intuitions. Kant certainly asserts as his conclusion that they are pure or *a priori* intuitions, but he may consider himself entitled to do so on the ground that he has already proved them to be pure or *a priori*. Nevertheless the second sense of '*a priori*' is so clearly implied in his arguments, and so important for his whole doctrine, that I prefer to make it explicit.

² They are known to be necessarily limited or finite.

³ By the totality of colours I mean, not the colour scale, but all the individual colours in the world.

⁴ We cannot even construct the colour scale *a priori* though perhaps we might fill small gaps in it (compare Hume, *Treatise*, Book I, Part I, Section 1); still less can we construct the totality of colours.

The fact that synthesis is necessary in order to know space must be examined later.

§ 7. *Infinity of Space and Time*

We have now to consider the arguments from the infinity of space and time.

It is easy to see that the argument for the oneness of space is also an argument for its infinity, and it is so used in regard to time.

The infinity of time is said to *mean* no more than this—that any determinate quantity (or part) of time is possible only as a limitation of the one all-inclusive time, which is presupposed.¹ As this is true of all quantities or parts of time, the original² idea of time³ must be given as unlimited, or as infinite in the sense indicated. That is to say, our idea of an all-inclusive time is logically prior to our intuitions of different times.

The next step is intended to show that such an idea must be an intuition, not a concept. This would follow merely from the fact that time is one and individual, but Kant makes it follow here from the fact that time is infinite in the precise sense indicated.

The reason why it thus follows is stated differently in the two editions. In the first edition the idea of an all-inclusive time⁴ cannot be given through concepts,⁵ because the parts of a concept are logically prior to the concept itself. This is

¹ I take the phrase '*zum Grunde liegende*' to mean that the all-inclusive time is presupposed as a condition.

² A 32 = B 48. 'Original' (*ursprünglich*) is opposed to 'derivative' (*abgeleitet*). In B 72 'original' and 'derivative' are used in a special sense: the ideas of space and time are said to be 'derivative' and not 'original', that is, they are due to a dependent sensibility and not to a self-sufficient intellectual intuition. Compare *Metaphysik d. Sitten, Rechtslehre*, § 10 (VI 258) and *Streitschrift*, 1. Abschnitt (VIII 222-3) for further light on these terms.

³ Note that Kant himself says 'the idea time', not the 'idea of time'. As usual Kant's transition from time itself to the idea makes the argument difficult to follow. Our original idea of time is an idea of something infinite or unlimited, and this idea is presupposed by our intuitions of finite times.

⁴ Kant says 'the whole idea'.

⁵ Here again it is difficult to see why Kant refers to 'concepts' in the plural, unless it is because the concept of temporality contains different 'marks'.

withdrawn in the second edition, perhaps because the statement is not true of concepts of reason or Ideas.¹ The reason why the idea of an all-inclusive time cannot be given through concepts is (in the second edition) *because concepts contain only 'partial representations'.*²

Kant's argument is complicated by the fact that he assumes both time and parts of time to be our ideas.³ Our idea of the one all-inclusive time is, so to speak, an idea of all the times that there are—it contains all times as parts of itself: hence all finite individual times are parts of our idea of one all-inclusive time. If our idea were a concept, its parts could not be individual times (or lengths of time); for the parts of a concept are not the individual instances which fall under the concept, but simply the common characteristics, or common 'marks' ⁴ which are found in the individual instances. Our idea of time must be an intuition, since its parts are individual times; and indeed it must be a pure intuition, for only so can it be the idea of an all-inclusive time whose parts (individual times) are known only as limitations of the whole.

This intuition of an all-inclusive time is not only prior to our intuitions of different times: it is also prior to our concepts of temporality, our concepts of the characteristics or marks common to different times. As Kant says, it 'underlies' our concepts.⁵ The reason for this is presumably that already stated in connexion with the oneness of space. One common mark of different times is that they are necessarily limitations

¹ See *Log.* § 3 (IX 92).

² '*Teilvorstellungen*.' These seem to be identical with the '*Teilbegriffe*' and '*Partialvorstellungen*' of the lectures on Logic, and for the present purpose may be equated (as in A 43 = B 60) with '*Merkmale*', that is, with 'marks' (*notae*). See *Log. Einl.* VIII and §§ 1 and 7 (IX 58, 91, and 95). Compare also Chapter IX § 4.

³ At present this should not mean that they are *only* ideas.

⁴ The common characteristics or marks contained in the concept of temporality are, for example, continuity, homogeneity, unity of dimension, and perhaps limitation.

⁵ B 48. In the first edition he seems to say that it underlies 'our whole idea', whereas it really *is* our whole idea. The change from '*ihre*' to '*ihnen*' in B gives better sense.

of the one time, and our concept of temporality must be derived from our intuitions of times as necessarily limited. The intuition of times as necessarily limited presupposes a pure intuition of one all-inclusive time, and therefore this one pure intuition must underlie all our concepts of temporality.

The arguments from the infinity of space are somewhat different, and are stated with greater clarity.

In the first edition Kant argued that a concept of spatiality, inasmuch as it is a concept of what is common to spaces of different sizes, cannot determine anything about quantity. The inference would appear to be that since infinity is a quantity, our knowledge of the infinity of space must be derived, not from the concept of spatiality, but from the intuition of space.¹

In the second edition Kant recognises that a concept can involve infinity, in the sense that it can be present in an infinite number of possible instances² as a common characteristic. That is to say, a concept can have an infinite number of instances under it, but it cannot have an infinite number of instances³ in it, as space has an infinite number of spaces in it. The general concept is spatiality, and although spatiality has an infinite number of instances (spaces) which fall under it, to speak of these spaces⁴ as in it would be ridiculous. We must not confuse our intuition of infinite space with the concept of spatiality.

¹ Note, however, that it is only because of the absence of limits in the progress of our intuition that we obtain the principle of infinity.

² Kant says 'ideas', and this might suggest a reference to the 'partial representations' of A 32 = B 48. I doubt whether a concept can be said to be 'in' the 'partial representations' of which it is composed, whereas it is said to be contained 'in' the idea of the things which are known through it. See *Log.* § 7 (IX 95).

³ Here again I do not think Kant can refer to the 'partial representations' or 'marks' which are in a concept as its parts. It may be true that we cannot think an infinity of parts in a concept, but that is not the point. I am not even sure that it is true. If the 'marks' thought in an empirical concept are not infinite, at any rate we can always discover more of them in experience. See *Log.* § 103 (IX 141).

⁴ Or of spatial things.

It seems obvious enough that our idea of the one infinite space (or time) is to be distinguished from the concept of spatiality (or temporality), the concept of what is common to all spaces (or times); and if an idea of an individual is an intuition, while an idea of a common character is a concept, then our ideas of space and time must be intuitions. If this were the whole of Kant's contention, there would be no need to say more: but he is also arguing that the intuition of an all-inclusive space (or time) (1) is logically prior to intuitions of limited individual spaces (or times); and (2) is for this reason logically prior to concepts of spatiality (or temporality), which are derived by abstraction from such intuitions.

If we insist that our intuitions of space and time are paradoxical intuitions, and their objects paradoxical objects, Kant is willing to agree.¹ It cannot, however, be denied that we are in some sense aware of space and time as individual wholes, and there are at least plausible grounds for saying that we are aware of them as infinite wholes. To say this is, on Kant's view, to say that they are objects of intuition, and indeed objects of pure intuition,² since we know what all their parts must be. *Why are they pure intuitions?*

Kant may have felt that there was more difficulty in regarding time as a pure intuition than in regarding space as such. Intuition is naturally thought of as an apprehension of the simultaneous, and the parts of space are simultaneous,³ while the parts of time are not.⁴ However that may be, he endeavours later to strengthen his argument that the idea of time is an intuition. He does so by maintaining that all temporal relations can be expressed in outer intuition, namely the intuition of an infinite line, provided we remember that the parts of an infinite line are simultaneous, while the parts of time are successive.⁵ Such an argument would seem to belong properly to the Metaphysical Exposition of Time.

¹ For example B 148; A 291 = B 347; B 457 n. In A 292 = B 348 space and time are said to be empty intuitions without an object.

² Or in Kant's language that they are pure intuitions.

³ B 40.

⁴ A 31 = B 47.

⁵ A 33 = B 50.

In the second edition Kant puts this contention even more strongly, and holds that all temporal relations *must* be expressed in outer intuitions.¹

§ 8. *Intuition and Conception*

That both intuition and conception are necessary for knowledge of any object is an essential doctrine of the Critical Philosophy. Kant has, however, said that our ideas of space and time are intuitions. Is not this a flat contradiction?

We must remember that in the Aesthetic Kant is 'isolating' sensibility, but even so it should be abundantly clear that he is not denying the presence of concepts in our knowledge of space and time. He is only asserting that our concepts of spatiality and temporality are logically derivative, and that our pure intuitions of space and time are 'original'. As he himself says, space is '*intuitus, quem sequitur conceptus*'.²

This doctrine has been sufficiently explained, but its full bearings are seen only when we understand how, according to Kant, the part played by intuition and conception varies in different kinds of cognition.³ In knowing a colour, the intuition is primary, the concept derivative; and this is true of all empirical concepts. In knowing a substance, although intuition is always necessary, it plays a secondary part: the concept of substance is primary and is independent of intuition. The same holds good of all the categories or pure concepts of the understanding.

Now the concept of spatiality must be a *pure* concept, because it is a concept of what is common to different *pure* intuitions. The unwary may suppose that it is therefore on the same level, and of the same nature, as a category. This is a mistake.⁴ The concept of spatiality resembles empirical concepts in being derivative and dependent, although unlike them

¹ See B 154, B 292.

² See passage quoted by Vaihinger, *Commentar*, ii, p. 233.

³ This can be fully understood only when we have grasped the distinction between different kinds of concepts. See Chapter IX § 5.

⁴ Compare *Prol.* § 8 (IV 282).

it is dependent on pure intuition. Our knowledge of space is primarily intuitive, and not intellectual. Whatever we may think of Kant's doctrine about the categories, as regards space and time he is surely right.

Furthermore, until Kant has explained his doctrine of synthesis, he has to speak as if the unity of space were *given* in intuition. It can, however, be given only because of a synthesis which does not belong to sense.¹ The necessary synthetic unity of space (and of time) depends upon, and presupposes, the pure categories of the understanding.² All this is omitted from the Aesthetic, but it seems to me that such an omission is defensible. A man cannot explain his whole philosophy at once.

It is much more difficult to defend the statement that space is 'represented' as an infinite *given* quantity.³ No doubt here also the fact of synthesis has to be ignored, though it is hinted at; for Kant speaks of the absence of limits in the advance of intuition as the source of our knowledge that space is infinite.⁴ Moreover the word 'represented'⁵ may cover either intuition or thought or both together, and a little later⁶ Kant says expressly that space is *thought* as containing an infinity of parts in it. In the case of time the meaning ascribed to 'infinity'⁷ avoids the suggestion that the infinite whole is given as complete:⁸ the 'infinity' of time *means* that any determinate quantity of time is possible only as a limitation of the whole, and on this statement the argument turns.⁹ I think also we are entitled to lay stress on Kant's insistence that our pure intuition of space (or time) *underlies*¹⁰ both our concepts of spatiality (or

¹ B 160 n. Compare B 130.

² B 161.

³ B 39. Compare A 25.

⁴ A 25.

⁵ 'vorgestellt.'

⁶ B 40.

⁷ A 32 = B 47-8.

⁸ Nevertheless the original idea of *time* is said to be *given* as unlimited.

⁹ Compare also Kant's own defence of his statement about space quoted by Vaihinger (*Commentar*, ii, p. 255). There he seems to reduce the infinity of space to the fact that all spaces are possible and thinkable only as parts of the one space. He even suggests that what is given is the *possibility* of all spaces, which goes *ad infinitum*.

¹⁰ 'zum Grunde liegt.'

temporality) and our empirical intuitions of spatial (or temporal) appearances. Infinite space and time are given to us, not as completed wholes, but as necessarily presupposed in our experience.

This I take to be the true doctrine which Kant is attempting to state. Nevertheless we cannot acquit him of carelessness in expression, and perhaps not even of confusion in thought. We must say, not only that infinite space and time are not given to us apart from the synthesis of the understanding, but that as completed wholes they are not given to us at all.¹ Kant himself speaks of absolute space elsewhere as a concept of reason, a mere Idea.²

Kant's statement, at the best, must be taken as provisional and liable to subsequent correction. At present we can maintain only that our knowledge of space and time as infinite depends primarily on our pure intuitions, the synthesis of which from their very nature can never be completed. For the purposes of the argument this is enough.

§ 9. *Different kinds of Abstraction*

I have said that we have pure intuition when we abstract the spatial and temporal relations from the objects which stand in these relations.³ This seems to me the natural way of speaking, but it will be noticed that Kant himself says only that we have pure intuition when we abstract from the objects.⁴ And this raises a point which must be made clear.

¹ In *K.d.U.* § 26 (V 254) Kant says it is the voice of reason which makes it inevitable that infinite space and time should be thought as wholly given (in the judgement of *common* reason). Does this imply that the statement in the Aesthetic is of a popular or provisional character? In any case it suggests that the word 'represented' should be taken as meaning 'thought'. We do think of space and time as infinite *given* quantities, though our pure intuition can never be a completed whole.

² *M.A.d.N.* (IV 559). Compare also *op. cit.* (IV 481). I am here presuming that the absolute space of the Newtonian physicist and the infinite space of the mathematician are to be identified. In his casual jottings (which cannot have the authority of a published work) Kant denies space to be a concept of reason. See *Nachlass* 4188 (XVII 450).

³ See § 3 above.

⁴ A 27 = B 43.

It is one of Kant's logical doctrines that we should never speak of 'abstracting something' but that we should speak only of 'abstracting from something'.¹ Thus when we think of the red colour of a piece of cloth, he is prepared to say that we abstract from the cloth, but not that we abstract the red colour from the cloth.

I do not think this point is of great importance for our present purposes. What is of importance is that space and time are not abstracted from objects in the same way as red colour is abstracted.²

Kant is prepared to say that red colour is given in roses and cinnabar, and is logically extracted, if not abstracted, from them.³ By this I take him to mean that by abstraction we ignore the differences in the given objects, and consider redness in separation as their common 'mark'.⁴ An idea thus abstracted from experience—to use the common idiom—is a concept and is not independent of experience.

If space and time were abstracted in this way, we should have merely the concepts of spatiality and temporality, and should have no ground for regarding them as independent of experience. For this reason Kant sometimes denies our ideas of space and time to be the results of abstraction.⁵ This, I take it, is the false doctrine of Leibniz which he repudiates. The whole point of Kant's doctrine is that our ideas of space and time are not concepts of the features or relations common to different sensible objects, such as their 'outsideness' or 'successiveness'. A thing can be outside another only if both things are in space. It can be after another only if both things are in time. In knowing space and time we are not abstracting, or extracting, the common relational qualities⁶ (if such a phrase

¹ See *Log.* § 6 (IX 95); *Anthr.* § 3 (VII 131).

² See *Streitschrift* (VIII 199 n.). Leibniz, according to Kant, thought they were; see A 40 = B 56–7.

³ When the idea of red colour is logically extracted or abstracted, it is used as a common 'mark', and so possesses universality. Compare *Anthr.* § 3 (VII 131). It is in short 'redness'.

⁴ Compare B 133 n.

⁵ See A 23 = B 38, A 30 = B 46, and compare *Diss.* § 15A (II 402).

⁶ Kant would call them 'marks'.

may be permitted) of things: we are leaving out or eliminating spatial and temporal objects;¹ and we are then left with space and time as individual wholes. These unique individual wholes we know to be infinite, and they are the condition of all such relational qualities as being outside and beside, or before and after.

This doctrine is of great importance. It shows that our intuitions of space and time are 'exhibited in their purity'² only by an act of abstraction following upon the perception of empirical objects;³ and it shows that the method of abstraction involved in such pure intuitions is different from the method of abstraction involved in conception.⁴

¹ Compare A 20-1 = B 35, A 22 = B 36, A 24 = B 38-9, A 31 = B 46.

² Compare A 66 = B 91. To exhibit them in their purity is to extract them from experience as 'clear' ideas. See A 196 = B 241.

³ Compare A 196 = B 241 and A 292 = B 349. Also quotation in Vaihinger, *Commentar*, ii, p. 93 n.

⁴ It might be well to use a word such as 'isolation' or 'separation' for the special kind of abstraction involved in pure intuition. In B 427 Kant hints at such a usage, but he generally uses '*abstrahieren*' and '*absondern*' as practically synonymous. Compare *Log.* §-6 (IX 94).

CHAPTER VI

SPACE AND TIME—TRANSCENDENTAL EXPOSITION AND CONCLUSIONS

§ 1. *Transcendental Exposition of Space and Time*

In spite of its formidable name the Transcendental Exposition is comparatively simple. In regard to space it amounts to this, that the judgements of geometry are synthetic *a priori* judgements. In order to be synthetic they must rest upon intuition, and in order to be *a priori* they must rest upon pure intuition. We have already in the Metaphysical Exposition shown that space is a pure intuition. We now find that unless space were such a pure intuition,¹ geometrical judgements could not have the necessity and universality which they as a matter of fact have. Unless space were a pure intuition, we could not say that there is only one straight line between any two points,² nor could we say that space has only three dimensions.³ We could say only that so far as our experience went, we had found it to be so.

A similar argument is used in regard to time, except that here we have no complete science comparable to geometry. We are simply referred to certain synthetic *a priori* principles of time relations, or axioms of time in general.⁴ Such axioms are 'Time has only one dimension'; 'Different times are not simultaneous but successive'.

A further argument is added in the second edition.⁵ Apart from time as an *a priori* intuition we could have no understanding of change (including motion, which is change of place). The understanding of change involves the attribution of contradictory predicates to the same subject, and this for

¹ That is, an object of pure intuition, though of a paradoxical kind. Compare B 160 n.

² A 24.

⁴ A 31 = B 47.

³ A 24; B 41.

⁵ B 48-9.

thinking by itself is impossible.¹ It becomes possible only when we realise that contradictory predicates can belong to the same thing at different times. Time is therefore the necessary and universal condition of our apprehending change and motion. It can be so only as a pure intuition, since thought by itself cannot supply such a condition.

Furthermore this view of our idea of time can alone explain the 'general doctrine of motion', which Kant regards as composed of synthetic *a priori* judgements.

We have thus two contentions. Time must be pure intuition, firstly if we can know certain axioms about time itself, and secondly if we are to understand the concept of change and the general theory of motion.

Kant is making an effort to discover a synthetic *a priori* science of time, corresponding to geometry as a science of space. There is no such science. Since time is one-dimensional, the science of time does not advance beyond such axioms as Kant has himself stated.

To remedy this he has to bring in change and motion, but change² and motion³ are not wholly free from empirical elements, and are not on the same footing as time and space. Furthermore the science of geometry takes account of space⁴ only, and not of time, whereas the doctrine of motion must take account of both space and time. Since time is the form of inner sense, a pure science of time should enable us to deal *a priori* with inner states (not with moving bodies), and should offer a basis for psychology rather than for physics.⁴

Nevertheless if time as a pure intuition is necessary to explain the axioms which Kant has propounded, we should perhaps be prepared to accept his doctrine of time, provided he could demonstrate that the corresponding view of space was necessary to geometry.

¹ The law of non-contradiction, as stated in Formal Logic, should have no reference to time. See A 152-3 = B 191-2 and compare Chapter XXXV § 2.

² B 3.

³ A 41 = B 58.

⁴ The precise nature of the 'doctrine of motion' is a further difficulty.

So far the Transcendental Exposition is concerned to prove only that space and time are pure intuitions—in the sense that knowing space and time we can say what their parts must be. For example, knowing space we can construct geometrical figures in it *a priori* in accordance with a concept,¹ and it is this which enables us to prove geometrical propositions. We have not yet maintained that pure geometry must apply to the actual world, and that therefore our pure intuition of space must contain the form of all appearances. Still less have we attempted to show that space must therefore be of subjective origin.²

Kant introduces both these points in the third paragraph of the Transcendental Exposition of Space.³ It may be argued that this ought to be done, if the exposition is to be strictly transcendental. The word 'transcendental' usually implies, not only that we show a cognition to be *a priori*, but also that we do so by ascribing its *origin* to the mind.⁴ Nevertheless these points are not introduced in the Transcendental Exposition of Time, and for the sake of clarity the subjectivity of space and time ought to be reserved for the 'Conclusions'.

The Transcendental Exposition as a whole is stronger in regard to space than in regard to time, for the temporal science parallel to geometry is, at the best, a trifle shadowy. It is for this reason that in the Aesthetic space is more prominent than time. The exact contrary is the case in the Analytic,

¹ *Prol.* § 7 (IV 281). Kant properly does not himself talk of construction till he comes to the Analytic.

² I think it legitimate to use this phrase; compare 'subjective condition' in A 26 = B 42 and A 33 = B 49. Kant himself uses 'subjective origin' for the way in which the individual acquires a cognition. He uses 'objective origin' for the sources from which alone a cognition is possible, even although these sources are to be found in the human mind as such. See *Log. Einl.* III (IX 22).

³ B 41.

⁴ B 25; A 55-7 = B 80-1. Compare *Prol.* § 13 *Anmerk.* III (IV 293): 'The word "transcendental" which with me never means a relation of our knowledge to things, but only to the faculty of knowledge. . . .'

though even there the tendency of Kant's thought in the second edition is to give space more prominence than it had in the first.

§ 2. *Synthetic and Analytic Argument*

Kant's argument may be looked at in two ways. He may be said to offer a justification of geometry by his theory of space as a pure intuition. He may also be said to justify his theory of space on the ground that it alone is consistent with the validity of geometry. The first type of argument Kant regarded as progressive or synthetic—it passes from the condition to the conditioned. The second type of argument he regarded as regressive or analytic—it passes from the conditioned to the condition.¹ Taken by itself the Transcendental Exposition belongs to the second type; but taken in conjunction with the Metaphysical Exposition it can be made to fit into an argument of the first type. The Metaphysical Exposition establishes Kant's theory of space by an examination of the idea of space itself: the Transcendental Exposition shows that the theory thus independently established is alone able to account for the possibility of geometrical science. Hence the argument as a whole can be said to move progressively or synthetically from the condition to the conditioned.²

§ 3. *Conclusions*

The Metaphysical and Transcendental Expositions, if they are successful, have established the principle that space and time are pure intuitions (in the sense of being known by pure intuition). These pure intuitions are for Kant the condition of all our *a priori* knowledge of space and time, including

¹ The distinction is as old as Euclid. See Pappus of Alexandria, *Collectio*, Book VII (Vol. II, p. 634 of the edition of Hultsch) and Heath, *A History of Greek Mathematics*, Vol. II, p. 400.

² Broadly speaking, the whole argument of the *Kritik* aims at being progressive, while the argument of the *Prolegomena* aims at being regressive. Compare *Prol. Vorw.* and § 4 (IV 263 and 274-5).

not only general axioms but detailed propositions—such as those of pure geometry. The content of these pure intuitions is the formal spatial and temporal relations in which all appearances must be given to us; or in Kant's language space and time are *forms of appearances*.

We have now to take a step forward, and to argue for the subjectivity, or transcendental ideality, of space and time. This transcendental ideality may be expressed by saying that space and time are *forms of our sensibility*—that they are due, not to the nature of the things which appear to sense, but to the nature of the human sensibility to which these things appear.

As usual, Kant fails to maintain an exact parallelism in his different accounts of space and time. This is partly due to carelessness, but partly also to the fact that the characteristics of time differ in certain ways from those of space.¹

The argument may be put briefly. *A priori* knowledge²—knowledge, that is to say, which is necessary and universal—is independent of experience—cannot be derived from experience.³ It must therefore be derived from the knowing mind. This means, for Kant, that whatever is known⁴ *a priori* cannot be given from the side of the thing known, but must be contributed by the mind itself.⁵ If we accept the view that space and time are known *a priori*, we must therefore hold that space and time are due to the nature of the mind, in this case to our sensibility.

¹ Conclusions (a) and (b) for space are roughly parallel to conclusion (a) for time, and conclusions (b) and (c) for time have (apart from the first sentence of (b)) no parallels under space.

² This covers knowledge in the full sense and also the intuitions or conceptions which are elements in such knowledge.

³ On the other hand, it could not arise apart from experience, and it is gradually sorted out from experience (or made 'clear' to the mind) by reflective analysis; see B 1-2.

⁴ Or conceived or intuited *a priori*.

⁵ Whatever is merely given in the thing known can, Kant believes, be known only as empirical fact. Since in knowledge there are only two factors present, the thing known and the knowing mind, what is known *a priori* must be given, not in the thing known, but in the mind which knows.

§ 4. *The Newtonian View*

Kant has already, it will be remembered, set forth three possibilities.¹ Space and time are either (1) real things, i.e. things-in-themselves, or (2) determinations or relations of real things, or (3) forms of our sensibility. The arguments used in regard to these three possibilities must be expounded briefly: criticism is reserved till later.

The first of these, which is the view of Newton, Kant does not take very seriously. He fails to mention it here in connexion with space.² In connexion with time he says only that if time were something existing by and for itself, it would then be something which without a real object would none the less be real.³ Clearly he regards time (and presumably space) as nothing apart from objects in time, although in thought we can eliminate sensible objects from it and cognise it in pure intuition.⁴ He says later that on the Newtonian hypothesis space and time would be two eternal and infinite self-subsistent nonentities or 'unthings' (*Undinge*), which are there—without anything real being there—merely in order to receive everything real into themselves.⁵ He adds that such a theory can account for the application of mathematical truths to the world of appearances—he does not say whether it could account also for the possibility of pure geometry—but that its upholders become embarrassed when understanding seeks to go beyond the world of appearances⁶. This contention, not here explained, may perhaps be alluded to later, when he says that to make space and time forms of things-in-themselves is to make them conditions of all existence, including the existence of God.⁷

¹ A 23 = B 37. Compare Chapter V § 1.

² A 26 = B 42.

³ A 32 = B 49. Compare A 292 = B 349.

⁴ See Chapter V § 9.

⁵ A 39 = B 56. Compare B 70. An *Unding* is something the concept of which is self-contradictory; see A 292 = B 348. In A 291 = B 347, where Kant is stating his own view, space and time are not nonentities but imaginary entities. See also *Diss.* § 14, 6 (II 401).

⁶ A 40 = B 57. Compare Chapter VIII § 5.

⁷ B 71. This may be a reference to Spinoza, see *Metaphysik*, p. 37; or possibly to Malebranche, see *Diss.* § 22 *Scholion* (II 410).

A further criticism is to be found in the first two Antinomies.

It can hardly be denied that in the Aesthetic Kant's criticism of this view is inadequate. He seems to take it as the view of physicists who have never thought out its metaphysical implications.¹

§ 5. *The Leibnizian View*

The view against which Kant's arguments are mainly directed is the Leibnizian view. In it space and time are relations of appearances, relations abstracted from experience and represented confusedly in abstraction;² indeed our whole sensibility is only the confused representation of real things.³

Kant argues later against making the difference between the sensible and the intelligible a mere logical difference between the confused and the distinct.⁴ It is on the contrary a transcendental difference, that is, one originating in different powers in the mind and implying a difference in the content.⁵ On this point I imagine few would support the Leibnizian view to-day.

In the passages referred to as 'Conclusions' Kant simplifies the Leibnizian view. Ignoring the doctrine of 'confusion', he takes this view to assert that space and time are characteristics of things independently of the subjective conditions of our intuition.⁶ In that case, he argues, our knowledge of space

¹ Compare *Diss.* § 14, 5 and § 15 D (II 400 and 403-4).

² A 40 = B 56-7. 'Relations' here would seem to be 'relationships' or relational qualities, and our ideas of space and time to be concepts of such common relational qualities.

³ A 43 = B 60; A 267 = B 323; A 276 = B 332. It would be better to say that our sensing is only a confused conceiving.

⁴ A 43 = B 60 ff.

⁵ A 44 = B 61-2.

⁶ This is the more general case of which the Leibnizian doctrine is a special form. 'Characteristics' or 'determinations' (*Bestimmungen*) include inner qualities and outer relations: in A 26 = B 42 the former are called absolute, and the latter relative, characteristics. In A 33 = B 49 this distinction is put awkwardly as a distinction between 'characteristic' and 'order'.

and time would be a mere generalisation from experience. We can make assertions about the characteristics of things-in-themselves, only so far as we have actually experienced the things.¹ Hence if space and time were characteristics of things-in-themselves, we could never attain the apodeictic certainty of mathematics, nor could we assert that the truths discovered in mathematics must hold of the real world.²

If this contention were sound, it would be fatal to the view that space and time are characteristics of things as they are in themselves. We must find some way of explaining why the physical world necessarily conforms to the discoveries of pure mathematics—provided always we are entitled to the assumption that it must so conform.

§ 6. *The Kantian View*

Kant's own view is that space and time are forms of human sensibility, that is to say, they are due to the nature of our sensibility. They are forms under which things must appear to us, not forms of things-in-themselves. What is given to sense still implies the reality of things-in-themselves; appearances are still appearances of things-in-themselves; yet the universal spatial and temporal relations of the given can be in no way due to things-in-themselves, but only to our sensibility. No doubt it must be due to something in things-in-themselves that we see one table as round and another as square;³ but if things-in-themselves are not spatial, this something cannot be roundness or squareness, and its real nature must be to us for ever unknown⁴. Things-in-themselves do

¹ A 26 = B 42; A 33 = B 49. Kant's doctrine is that since a characteristic (of whatever kind) is logically dependent upon the object of which it is the characteristic, it cannot be the condition of such an object; consequently we cannot intuit it except in so far as the object is given to us, that is, we cannot intuit it *a priori*.

² A 40 = B 57.

³ This view of Kant's doctrine is commonly denied, but it seems to me the only view which can make his theory intelligible. Compare §/8 below.

⁴ The real characteristics might conceivably be thoughts (A 359-60).

not migrate unchanged into our minds. As they appear to us, they become subject to the spatial and temporal forms of our sensibility. We know them only as they appear, and not as they are.

It should be clearly understood that Kant's main argument is not from the subjectivity of sensible appearances to the subjectivity of space and time as intimately bound up with sensible appearances.¹ It is precisely the reverse. Since space and time are known *a priori*, they must be subjective in origin, and therefore the sensible appearances of which they are the form must be partly determined by the nature of the mind. In the earlier stages of the argument we were entitled to keep open the possibility that these appearances were identical with things-in-themselves (or rather were the things-in-themselves, not only as they appear, but also as they are). That possibility is now, on Kant's principle, excluded; and henceforward when we say that space and time are forms of appearances, we imply that these appearances are things, not as they are in themselves, but only as they appear to us.

If we ignore the fact that Kant's argument is always from necessity and universality, we are bound to find it dogmatic and even incomprehensible. We may, for example, fall into the common mistake of supposing that his whole case rests on the unexamined assumption that relations, and especially spatial and temporal relations, cannot be given along with sensation.² On the contrary, Kant always assumes that *sensa* (and so objects) are always given to us in spatial and temporal relations, of which space and time are the conditions.³ This is, in fact, what he means when he says that space and time are forms of intuition or of appearances. His argument is

¹ In places (e.g. B 68) Kant does suggest independently that the senses can never give us the qualities of things-in-themselves, but this is rather a corroboration than a premise of his main argument.

² Even the combination of the manifold (though it belongs to understanding, not to sensibility) is given along with, although not in, intuition; see B 161.

³ Compare Lindsay, *Kant*, p. 67: 'Kant is putting space and time on the side of the *given*.'

not at all that relations as such must be due to the nature of the mind.¹ His argument is that space and time, as the *universal* and *necessary* system of relations which is the condition of the particular relations in which appearances are given, must be due to the nature of the mind.² More will be said on this point later on³.

Kant believes that the difficulties which arise when we regard space and time either as things-in-themselves, or as characteristics of things-in-themselves, will disappear when we regard them as due to the nature of our sensibility. If we accept his hypothesis, 'it can be readily understood' both how the *form of appearances* can be given prior to all actual sense-perceptions, and also how we can have a *pure intuition* whose content is this form. The reason for this assertion is that our sensibility, our receptivity or capacity to be affected by objects, precedes all intuition of these objects.⁴

§ 7. Temporal Priority

Here our capacity to be affected by objects precedes in time all our actual intuitions. It may be argued that Kant must therefore have supposed our pure intuitions of space and time to precede all our actual sensuous intuitions. This is however admittedly false, not to say ludicrous, and it is

¹ In B 67 Kant suggests that through *mere* relations things-in-themselves cannot be known, but this is a quite different argument (and also a sound argument; see Chapter LIII § 4). It is in any case peculiar to the second edition.

² Kant indeed says that the form in which sensations are arranged cannot itself be sensation (A 20 = B 34); but he is referring (as is perfectly clear if we analyse his complicated assertion in detail), not to the *particular* relations (or empirical forms) in which sensations are arranged, but to the *universal* forms of space and time, which are the condition of all such particular relations or forms. The assertion, moreover, should not be taken as a premise of his argument, but rather as a provisional statement of his conclusions; compare Chapter IV § 2.

³ See § 8 below.

⁴ Compare conclusion (b) in regard to space (A 26 = B 42), and also the end of conclusion (a) in regard to time (A 33 = B 49).

explicitly rejected by Kant elsewhere,¹ so that it is not only the more charitable, but also, I think, the truer view, to suppose that in spite of his terminology he means nothing quite so crude. We can indeed say that any human being has, on Kant's theory, even before experience has begun, such a sensuous nature that all objects must appear to it in space and time. Since the phrase 'form of sensibility' is used ambiguously (not only for the form of appearances as due to the nature of our sensibility, but also for the nature of the sensibility to which this form is due),² we can even say that the form of sensibility (in the latter sense) precedes all experience. But when we are told that pure intuition must be prior to all experience, we must take this to mean either that it is logically prior to experience, a condition of experience and not a generalisation from it; or else that we can have this pure intuition before any particular experience that we care to name.³

Such an interpretation of Kant is in any case the only one which can have any chance of withstanding criticism. Whether it offers an easy solution of Kant's difficulties demands further examination than he has given it. There is always a danger in philosophy, as Kant himself recognises, that we may accept a disproof of our opponents' theories as a proof of our own.

§ 8. *Form and Matter*

Kant believes that it is possible to consider form and matter in abstraction from one another.⁴ In the Aesthetic he considers

¹ For example *Diss.* § 14, 5 and § 15 *Corollarium* (II 401 and 406); and again *Streitschrift* (VIII 221). I find it hard to believe that Kant could be perfectly clear on this point, both in 1770 and in 1790, and yet could talk nonsense about it in 1781. And indeed this nonsense is explicitly repudiated in A 292 = B 349.

² Compare Chapter IV § 5.

³ In *Prol.* § 7 (IV 281) the last clause '*vor aller Erfahrung oder einzelnen Wahrnehmung*' perhaps suggests that 'before all experience' is equivalent to 'before perceiving the individual object in question'. Compare the last sentence of the following subsection, 'How can intuition of the object precede the object itself?'

⁴ Compare A 20 = B 34.

the form of appearances (space and time) apart from the matter. In the Anticipations of Sense-perception¹ he may be said—though this requires qualification—to consider the matter in abstraction from the form.² The whole *Kritik of Pure Reason* may be described as an analysis of our experience into its formal and material elements. An analysis of this kind need not imply that we have first the matter and then the form, or first the form and then the matter; and I see no sufficient ground for attributing such a mistaken psychological theory to Kant.

This psychological interpretation of Kant is the source of many errors. It is, I think, the main source of the commonly accepted view that Kant took over Hume's doctrine of sensations as isolated and unrelated atomic entities. For this view I can find no sufficient evidence.³ Kant's psychology seems to me closely related to that of Baumgarten and Tetens, and in certain respects to that of Leibniz, rather than to that of Hume. It is obvious that if we abstract from the spatial and temporal form of intuition, what is left in intuition is sensation which can have no extensive quantity.⁴ It is equally obvious that if we abstract from the unity of intuition (which as universal is for Kant due to the mind), what is left will be a mere 'manifold' without unity. Kant certainly makes both these statements; but this does not justify the interpretation that we first of all acquire isolated sensations, and then impose upon them the forms of space and time⁵

¹ A 166 ff., and B 207 ff.

² See A 167 = B 209 and A 175-6 = B 217-18.

³ Compare Lindsay, *Kant*, p. 15. This is a difficult question, and further points will be raised in Chapters XIX § 1, XLII § 1, and XLVI § 3.

⁴ Compare B 208.

⁵ In another connexion Kant says explicitly that empirical intuition is not compounded (*zusammengesetzt*) out of appearances and space (sense-perception and empty intuition). On the contrary, sense-perception and the intuition of space are conjoined (*verbunden*) only in one and the same empirical intuition as its matter and form. See A 429 n. = B 457 n. Although this is a note to the antithesis of the First Antinomy, it can, I think, be taken as expressing Kant's own

and the unity without which there would be no empirical objects.¹

This psychological interpretation has another result, which also appears to me to be erroneous. It is generally admitted that Kant offers no precise statement as to the reason why one object appears to us as square and another as round; but it is commonly held that all such differences of shape must be imposed *only* by the nature of our minds. The ground for this would seem to be that because space and time are for Kant imposed wholly by the mind, therefore squareness and circularity must be imposed wholly by the mind.² If *sensa* are not spatial, how can they be round or square?

This contention would be irresistible, if Kant supposed that sensations could really exist apart from space and time. If we refuse to accept such an interpretation, the argument loses its force. I believe that the empirical differences in the shapes and sizes of objects, like their empirical qualitative differences, must be ascribed to the 'influence' of things-in-themselves.

The commonly accepted doctrine destroys the distinction, upon which Kant always insists, between empirical and universal laws and between empirical and universal concepts.³ Only what is strictly universal is imposed by the mind upon objects.

view. Indeed what is the sense of talking about space and time as the conditions under which alone an object can be given, if what is given (namely sensation) is given quite independently of these conditions?

¹ As we shall see later, this view makes havoc of the Transcendental Deduction. Compare especially Chapter XXXI § 4.

² By parity of reasoning, since causality is wholly imposed by the mind, every particular causal connexion must be wholly imposed by the mind; but if so, it could be known *a priori*, whereas Kant always insists it must be discovered by experience. Similarly since degree is imposed wholly by the mind, every particular degree must be wholly imposed by the mind. On such a view sensations would be given without degree as well as without extension. Could absurdity further go? On my view, though causality and degreeness are imposed by the mind, every particular causal connexion and every particular degree is determined by the nature of things-in-themselves.

³ See, for example, B 165.

Empirical differences are particular determinations of the universal, but their particularity is not due to the mind and must be due to things.¹ If this view be given up, I do not see how the Critical Philosophy can be made intelligible.

It is true that Kant insists upon this point mainly in reference to the categories, but the same principle must hold for space and time. This is sufficiently brought out by Kant himself.² 'Empirical laws, as such, can never derive their origin from pure understanding, any more than the inexhaustible multiplicity of appearances can be adequately understood from the pure form of sensuous intuition.' This 'inexhaustible multiplicity' might be thought to be only the manifold differences in *quality* of sensation; but Kant goes on to say that all empirical laws are particular determinations of the pure laws of the understanding, just as all appearances are subject to the conditions of the pure form of sensibility, *whatever be the differences in their empirical form*.³ On the prevailing view when Kant says 'empirical form', he would have to mean 'matter'. It seems to me that he is referring (at least partly) to shape and perhaps size; and if this form is empirical, it must be known through sensation.

There can be no doubt that Kant distinguishes the mathematical triangle constructed in pure intuition from the empirical triangle, the concrete triangular object known through sense.⁴

¹ What is common to all objects is imposed by the mind. The differences in objects must be due to the nature of things. This is implied in B 69; see Chapter LIII § 7.

² See A 127-8.

³ A 128. Compare A 658 = B 686 for the continuity of 'forms' which are empirical and are distinct from the universal 'form' mentioned in A 653 = B 681. Other references to the empirical form or forms are to be found in A 20 = B 34 and A 110, though the term is not there used. In A 581 = B 609 'empirical form' is used in a different sense. There it seems to mean the universal form of objects of *experience*, which can be thought *a priori*. Compare 'the forms of all knowledge of objects' in A 129, where it is also called 'the intellectual form'.

⁴ Compare Vaihinger, *Commentar*, ii, p. 470.

'The figurative synthesis by which we construct a triangle in imagination is wholly identical with that which we exercise in the apprehension of an appearance in order to make for ourselves an empirical concept of it.'¹ This statement is not unambiguous, but I believe it to mean that in the apprehension of an empirical triangle we are compelled by the nature of our sensations to synthetise the given in the form of a triangle, such as can also be constructed *a priori*. In the *Kritik of Judgment* we are definitely told that 'in the apprehension of a given object of sense the imagination is bound to a determinate form of that object'; and that the object can give 'precisely such a form' as might be used by the imagination in a free synthesis.²

As we have already seen, Kant holds that we cannot *perceive* space apart from matter.³ He goes even farther than this and speaks of space—the space in which we perceive movements—as 'sensible',⁴ that is, as 'designated' or 'symbolised'⁵ through what can be sensed,⁶ and so as empirical. The same doctrine is implied by his continual references to the *empirical* determination of time.⁷ In abstraction from the forms of sensibility and the synthesis of the imagination, given *sensa* can have no spatial or temporal characteristics. Nevertheless they are given concretely under the forms of time and space, and are never given otherwise. Whatever be the part played by mind and by the thing-in-itself, *sensa* must be given in our experience

¹ A 224 = B 271. I have translated '*gänzlich einerlei*' as 'wholly identical'.

² *K.d.U.* § 22 *Anmerk.* (V 240-1). Compare also *op. cit.* §§ 17 and 21 (V 232 and 238). In § 17 Kant speaks of the forms (clearly the empirical or determinate forms) under which objects are given; and in § 21 he speaks of a given object bringing the imagination *by means of the senses* to a synthesis of the manifold. Note also that in A 167 = B 209 he says definitely that figure or shape, as well as quantity, is given *a posteriori* in experience.

³ See Chapter V §§ 4 and 8, and compare *M.A.d.N.* (IV 559), where this is explicitly stated.

⁴ '*empfindbar*.'

⁵ '*bezeichnet*.'

⁶ *M.A.d.N.* (IV 481).

⁷ See, for example, A 217 = B 264. In the *Streitschrift* (VIII 199 n.) he speaks of empirically determined time *and space*.

as outside and beside, before and after, one another;¹ they 'designate' the particular spaces and times which they occupy; they compel the imagination to synthetise them in certain empirical forms, which must accord with the universal and necessary forms of time and space; they are, in short, given concretely² (through the co-operation of things-in-themselves and human minds) as having certain shapes and sizes and as lasting for a certain time. This, I believe, is the basis of Kant's analysis of appearances into matter and form, and is in no way incompatible with this analysis.³

The interpretation which I have put forward does not imply that we know things-in-themselves. On any possible view we know that things-in-themselves are such that to human minds they appear as light and heavy. On my view we know also that things-in-themselves are such that to human minds they also appear as square and circular. There is no more difficulty in the one case than in the other, and neither view supposes that we know things as they are in themselves.

It is regrettable that Kant does not make his position so clear as to be beyond dispute. Nevertheless I submit that my interpretation alone can make the Critical doctrine reasonable and consistent, and that it has definite support in Kant's own

¹ In the *Dissertation*, § 14, 5 (II 400) in connexion with time, Kant speaks of '*relationes s. respectus quoscunque, quatenus sensibus sunt obvi*'.

² As I have said, if we abstract entirely from the contribution of the mind, the 'given' is a mere multiplicity. But this is an abstraction never found in reality. That which is concretely given in experience is due to the co-operation of things-in-themselves and the human mind. For the use of 'given', see B 130, B 134, B 161, B 163; also Chapter XXVIII § 10.

³ The importance which Kant attaches to empirical form and structure seems to me generally overlooked by modern commentators. It is all the more satisfactory to find this stressed by the Master of Balliol, *Kant*, pp. 65, 66, 105, 114. The doctrine I have maintained is, I think, supported by two passages he cites on p. 72, A 431 = B 459 and *M.A.d.N.* (IV 507 ll. 7-8). The first passage is as follows: 'Things, as appearances, determine space, that is, of all its possible predicates of magnitude and relation, they determine this or that particular one to belong to the real.'

statements.¹ I believe that for Kant form and matter are separable only in thought, and that although the universal form is due to the nature of our minds, the particular form is determined by the thing-in-itself 'affecting' human minds.² It is at the very least worth while finding out how far this interpretation can explain the argument of the *Kritik* as it develops, for the opposite interpretation attributes to Kant a view which is admittedly indefensible.

§ 9. *Empirical Reality, Transcendental Ideality*

Kant sums up his doctrine in the phrase that space and time are empirically real, but transcendently ideal.³

To say that space and time are empirically real is to say that they are objectively valid so far as all sensuous experience is concerned.⁴ Spatial and temporal characteristics (with all that they imply) must necessarily belong to all objects of human experience, whether these objects be regarded as mere private *sensa*, or as the common objects which these private *sensa* reveal to us. If we consider the question from the point

¹ A detailed criticism of the alleged evidence on the other side would take up too much room. I would insist, however, that when Kant speaks of the form of appearance in A 20 = B 34, he means the universal form, which admittedly is imposed by the mind. The *universal* form is the one necessary condition of sensations being posited or arranged 'in a *certain* form', that is, in a determinate or empirical form. This distinction, which I think is also to be found in the *Dissertation*, must always be kept in view. The Critical argument rests always on the strict universality of the form, and to ignore this is to throw Kant's whole doctrine into confusion.

² A rough analogy may help to make this clearer. If we are wearing blue spectacles, the blueness of things is imposed by our spectacles, but differences in the shades of blueness are due, not to the nature of our spectacles, but to the influence of the things. Compare Chapters VIII §§ 2-3 and LIII §§ 7 and 9.

³ A 28 = B 44; A 35-6 = B 52. It should be noted that Kant later describes his whole philosophy as transcendental idealism but empirical realism, and opposes it to transcendental realism. See A 369 ff.; A 490 = B 518 ff.; *Prol.* § 13 *Anmerk.* III and § 49 (IV 293 and 337).

⁴ I use Kant's terminology. It would be better to say that the *ideas* of space and time are objectively valid.

of view of ordinary experience, all the objects of our experience are, and must be, in one common time and space.

To say that space and time are transcendently ideal is to say that they are nothing, if we cease to regard them as conditions of sensuous experience; we cannot class them with things-in-themselves either by regarding them as substances known through pure reason or by regarding them as determinations or relations of such substances.¹ In other words, from the transcendental point of view spatial and temporal characteristics belong *only* to objects of experience, not to things-in-themselves.²

By this doctrine Kant is able to avoid the disadvantages of the Newtonian view which makes space and time forms of things-in-themselves,³ and consequently conditions of all

¹ A 36 = B 52. As a result of his argument Kant is entitled to assume that if things-in-themselves are known at all, it must be not by sensibility but by pure reason. Compare A 28 = B 44.

² The statement that space and time are 'transcendently ideal' ought to mean that they are ideal when we regard them from the transcendental point of view, when we consider that (as universal and necessary) they must have their origin in the mind, and therefore are nothing apart from our sensibility, and cannot apply to things-in-themselves. I am not sure that Kant does not mean this—some of his statements support such an interpretation. Nevertheless he identifies 'absolute' and 'transcendental' reality (A 36 = B 53), and this presents a real difficulty. It might indeed be argued that a thing is transcendently real, that is, real from a transcendental point of view, when we ask whether its reality is due to the nature of the mind, and conclude that it is real independently of the nature of mind, and so absolutely real. But Kant may be unconsciously falling back on an older meaning of 'transcendental', and it is perhaps even possible that he may be confusing it with 'transcendent'. If so, his looseness of terminology is regrettable, but not of great importance. Only a very ingenuous kind of criticism will regard it as proving that this passage was written earlier, or even that it is the relic of an older view.

Similar difficulties have been raised about Kant's description of his philosophy as 'transcendental idealism'. It ought, however, to be observed that in two passages in the *Prolegomena* Kant asserts that this phrase is misunderstood, and that 'transcendental' in this connexion has nothing whatever to do with 'transcendent'; see *Prol.* § 13 *Anmerk.* III, and also *Anhang* (IV 293 and 373 n.).

³ B 71.

existence, even of the existence of God. He is also able to explain, as Leibniz could not, how pure mathematics¹ is possible, and how its results must necessarily apply to all objects of experience.²

¹ Kant is concerned mainly with geometry.

² A 40-1 = B 57-8. Compare *Diss.* § 15 D (II 404).

CHAPTER VII

SPACE AND TIME—KANT'S ASSUMPTIONS

§ 1. *Universality of Space*

If space and time are to serve Kant's purposes, they ought to be universal and necessary conditions of all objects given to sense. It can hardly be maintained that Kant has shown space to be such a condition, and at the very outset we are met with difficulties. Space is said to be the condition of *outer* experience and of *outer* intuitions.¹ This assertion definitely restricts or limits the experience of which space is said to be the condition; and since 'outer' means 'spatial',² it looks like the tautologous statement that there can be no spatial experience apart from space.

Kant's statement is not really tautologous: his contention is not merely that we cannot know spatial appearances apart from space, but also that we can know space apart from spatial appearances; and it is this double contention which entitles him to hold that space is the condition of outer experience.³ Nevertheless the fact remains that space is said to be the condition of some human experience, but not of all.

This seems to me to be a real difficulty, and one which involves Kant in continual embarrassment throughout the *Kritik*. There can, it is true, be universality and necessity with a limited application, as in geometrical propositions about triangles; and space may be said to be universal and necessary within its own sphere—the sphere of outer intuition. But the aim of Kant's whole discussion is to determine the necessary

¹ A 23-4 = B 38.

² I think it implies also that what is known is other than the knower.

³ Compare Chapter V § 4, and also § 5 below. Colour, for example, is not in the same sense the condition of coloured appearances; for although we cannot know coloured appearances apart from colour, we have no power of knowing colour apart from coloured appearances. Colour is simply a common property of coloured appearances, not an individual and intelligible whole which can be studied in abstraction.

conditions of *all* human experience; and although in the Principles of the Understanding, and especially in the Analogies, space is treated as such a necessary condition, this treatment is not justified by the argument of the Aesthetic.

There are indications, even in the first edition, that Kant was not wholly unconscious of this difficulty. There he asserts that space and time, *taken together*, are the pure forms of all sensible intuition;¹ and again that space and time are the necessary conditions of all (inner and outer) experience.² In the second edition he connects space more closely with time, and so makes it look more like a condition of all experience. The whole 'stuff' of our experience comes to us from outer sense.³ The consciousness of my own existence is at the same time an immediate consciousness of the existence of other things outside me.⁴ It is only through outer experience that inner experience is possible.⁵ We need not merely intuitions, but always outer intuitions, to show the objective reality of the categories.⁶ If we are to make inner changes thinkable, we must do so through outer intuition, representing time by means of a line, and the inner changes through the drawing of the line.⁷

To make Kant's doctrine satisfactory we must recognise that space and time are ultimately bound up together, and that space is the mediate condition of inner, as well as the immediate condition of outer, experience. Kant's thought is tending in this direction, but—as is perhaps inevitable because of the time at which he wrote—his treatment of the subject, even in the second edition, is inadequate. It would be a natural development of Kant's doctrine to substitute a theory of space-time for separate theories of space and time; yet such a

¹ A 39 = B 56.

² A 49 = B 66. Kemp Smith omits brackets.

³ B XXXIX n.; B 67. This stuff may, however, be only the matter for knowledge of physical objects. See Chapter IV § 2.

⁴ B 276.

⁵ B 277.

⁶ B 291.

⁷ B 292. Compare B 156 and also A 33 = B 50. The germ of this view is already present in the *Dissertation* of 1770, § 15 *Corollarium* (II 405).

substitution would create difficulties in regard to the nature of the mind, for the mind seems to last through time, but not to extend through space.

§ 2. *Universality of Time*

Similar difficulties might be raised in regard to time. Time is the form of inner sense only,¹ that is, of the intuition of ourselves and of our inner states; and it cannot be a determination of outer appearances.² ✓

It seems reasonable enough to exclude our minds and inner states from space, but it looks paradoxical to exclude outer appearances from time. Why should time belong to inner states and not to bodies? Surely change, and therefore temporal position, are to be found in both alike. Motion is motion of bodies, and apart from space is impossible. As Kant himself says, it unites the two elements of space and time.³

His paradox is supported by the argument that time belongs neither to shape nor to position. It might be thought from this that Kant is considering only the characteristics which *necessarily* belong to everything so far as it is spatial. This restriction would exclude motion; for the concept of motion presupposes empirical perception of something movable, there being nothing movable in space considered in itself.⁴

Against this interpretation we have to set the statement that time cannot be outwardly intuited.⁵ The bald assertion that time cannot be a determination of outer appearances would seem to have been seriously meant.

Such a view is all the more curious because the whole argument of the Analogies turns upon the supposition that the objective time-order of events⁶ is distinct from the subjective time-order of our apprehension. In the Analogies, however, the objective time-order of events is determined by thought through

¹ A 33 = B 49.

² Compare also A 23 = B 37.

³ A 41 = B 58. In A 358 he even speaks as if motion were given to outer sense.

⁴ A 41 = B 58.

⁵ A 23 = B 37.

⁶ By 'events' Kant means primarily physical events.

the categories of substance, cause and effect, and interaction. This suggests that here Kant is confining himself to appearances so far as they are *immediately* intuited. All that is immediately given to us in time is the stream of our ideas or states of mind; and it is by thought, not by intuition, that we ascribe objective temporal position to moving bodies. Hence time is not an immediate determination of outer appearances.

If this is Kant's meaning, it is strange that he does not say so more explicitly.

In the third 'Conclusio we getn' a little more light on this matter. There we are told that *all* appearances, that is, *all* objects of sense, are in time, and necessarily stand in time-relations.¹ Time is the formal *a priori* condition of *all* appearances.² If this is true, time has in human experience a universality which would save it from the difficulties raised above in regard to space.

The justification of this contention, and its reconciliation with the previous assertion, is left in some obscurity. Time, because it is the *immediate* condition of inner phenomena, is also the *mediate* condition of outer phenomena.³ The reason for this is that even our ideas of spatial things are, if we take them in themselves, determinations or states of our minds, and so necessarily in time.

This supports the view that Kant is not denying time to be a determination of outer appearances, but only denying it to be an *immediate* determination of outer appearances. He appears to hold that outer intuition as such gives us only the spatially extended. Our awareness of a changing spatial world

¹ A 34 = B 51. See also A 35 = B 52.

² A 34 = B 50. Compare *Dissertation*, § 15 *Corollarium* (II 405).

³ Kant also says (in A 34 = B 51) that by means of inner intuition we grasp also all outer intuitions in the mind. I take this to mean that if we are to be aware of outer intuitions (and certainly if we are to be aware of outer objects) we must be immediately conscious of these outer intuitions as present to the mind and so as events in our mental history. I see no reason to take Kant as meaning that we first of all are aware of our inner states and proceed to infer spatial objects.

would seem to be dependent on our awareness of outer intuitions as succeeding one another in our minds.¹

Even so, the doctrine remains full of difficulties. Kant appears to be distinguishing, though by no means clearly, the immediately given content of outer intuition from the objects, namely bodies, to which the given content is referred. These objects he certainly regards as standing in time-relations, but the recognition of such objective time-relations is not an immediate intuition. It is the result of thinking, which alone can distinguish between our mental changes and an objective physical world; and this distinction is impossible apart from inner sense.

Kant's doctrine, if this interpretation is correct, can be understood only in the light of the Transcendental Deduction of the Categories. At present we can only note the reason given for the doctrine: time is the mediate condition of outer phenomena *because our ideas of spatial things are states of mind, and so must necessarily be in time.*² This seems to assume that because our ideas are in time, the objects to which they refer must also be in time.

If Kant's argument is to be valid, there must be an additional premise: that the ideas in question are appearances given to sense. If an appearance is given to sense, the immediate presence of an object is involved (as it is not when we are merely thinking). Hence we might maintain that if our ideas are *sensa* which come in temporal succession, the objects to which they refer must also be in time.³

The 'object' in this argument must be the phenomenal object,⁴ since Kant would definitely reject any such contention as applied to things-in-themselves. The complications in regard

¹ Since for Kant animals have only outer intuition and not inner, they must presumably have no consciousness of change. See Chapter LII § 1.

² The argument is stated at greater length in A 34 = B 50.

³ The qualities of these objects may be simultaneous, although they appear successively to us.

⁴ In A 34 = B 51 the objects are described as 'appearances' or 'objects of the senses'.

to the phenomenal object cannot be here unravelled, but if we consider the matter on a common-sense level, there is some plausibility in Kant's view. All we know immediately is the time at which an idea or sensum is given, and this is the same as the time of our apprehension.¹ We know immediately, for example, the time at which we see a star;² we do not know immediately the time at which it is where we see it to be. Yet the fact that we see it now implies that it is, or was, at some time.

No doubt, even as regards space, we must distinguish between the apparent shape and position of an object, which we grasp by immediate intuition,³ and the real shape and position, which can be grasped only by thought. Nevertheless even the apparent shape is the shape of what is intuited, not the shape of our intuiting. The case of time is different: what we know immediately is the time at which the intuition is given to us or becomes a state of our mind; and this is the time not of what is intuited, but of our intuiting.⁴ If this is true, time is properly described as the form of inner sense alone.

§ 3. *Universality of Space and Time*

The intimate connexion of space and time is not treated adequately from the side of time any more than it is from the side of space. If, however, we can accept the view that time is the immediate condition of inner appearances and the mediate condition of outer appearances, we have in the case of time that universality which is necessary to Kant's argument. If we

¹ Apprehension for Kant involves a present given intuition; see A 99; A 120; A 201 = B 246. Compare also A 190 = B 235. 'The appearances, in so far as they merely *quâ* ideas are objects of consciousness, are not in any way distinct from their apprehension.' I take this statement to refer primarily, if not entirely, to the *time* at which appearances are given and apprehended.

² That is, the time at which its colour is given or appears to us.

³ We need not deny that there is some thought, or at any rate some imagination, in this case.

⁴ No doubt the time of our intuiting, as we shall see in the second Analogy, may also be the time of what we intuit, if we are observing an objective change; but this we could never know by mere intuition.

can accept the further view—difficult as its implications are—that outer intuition is necessary for the apprehension of states of the self and of changes in these states, then we can say also that space is the immediate condition of outer appearances and the mediate condition of inner appearances. This would perhaps give us the required universality for space as well.¹

On this view space and time (both separately and together) would be the universal conditions of all appearances to sense (whether inner or outer). All appearances would be in one space and one time, or in one space-time.

§ 4. *Necessity of Space and Time*

Does the universality which we have now provisionally conceded to space and time involve also that necessity which is required if we are to regard them as known *a priori*?

We have to remember that something more than a matter of fact (or empirical) universality is demanded. Change, for example, is a universal feature of everything that we know, yet Kant regards it as derived from experience,² and not deducible from the idea of time.³

In a sense space and time are just ultimate facts which we cannot go behind.⁴ Kant's own line of thought does, however, suggest the possibility of finding some necessary connexion between them, which would leave us with one ultimate fact instead of two. Even apart from this possibility, he obviously regards them, not as characteristics which we *happen* to find everywhere in experience, but as necessary conditions of experience. Space and time are a fact, because experience is a fact: but they are not merely one of the many facts which we find in experience; they are the condition of all the other facts.

This problem of the relation between the condition and the conditioned is a difficult one, but Kant is clearly supposing

¹ Perhaps it would be necessary to go even further and regard mental states as in some sense spatial. Compare Professor Alexander's view in *Space, Time, and Deity*.

² B 3.

³ A 41 = B 58.

⁴ B 146.

that we understand space and time to be necessary to the kind of experience which human beings have.¹

When we consider any sensum—to take the simplest example—we understand (if we understand anything) that it must be given as outside and beside, and before and after, another. 'Outside' and 'beside' cannot be reduced to mere qualitative differences in the sensum, they mean 'in different places' or 'in different parts of space'. Similarly 'before' and 'after' cannot be reduced to qualitative differences in the sensum, they mean 'at different times'.²

Space and time are ultimate, and cannot be reduced to, or derived from, anything else. Kant is right in insisting on this point, and it is quite independent of any account of the psychological process by which we become aware of space and time.

It seems reasonable to hold that space and time are ultimate and necessary elements in human experience—we can conceive no human experience without them. But this might be said equally of sensation. Matter is just as necessary to experience as form,³ and we can no more have experience without sensation than we can have experience without space and time. What is the special kind of necessity which belongs to space and time, and not to sensation?

There is an important difference between the two cases. We can indeed say of sensation *a priori* that it must have a degree.⁴ Beyond this we can say nothing *a priori* of sensation: we must just wait for each sensation till it is given. Space and time, on the other hand, are such that we can say what their parts must be. They are, so to speak, necessary through and through, and there is nothing in them which is not necessary. We know not only *that* they must be in all experience, but

¹ A 23 = B 38.

² A 30 = B 46.

³ Compare the reference to the *material* conditions of experience (sensations) in A 218 = B 266. There is an interesting corroboration of this view (and of the inseparability of matter and form) in the *Opus Postumum*. See Vaihinger, *Commentar*, ii, pp. 68-9.

⁴ A 166; B 208. This might be called a formal characteristic of the matter of experience.

what they must be in all experience. This constitutes a real difference, which must not be exaggerated, but cannot be denied.

It is because of this special kind of necessity that Kant asserts space and time to be *a priori* ideas or intuitions. We have already noted that the term '*a priori*' is applied by Kant to space and time in two senses.¹ We now see that the two senses are bound up with one another. Space and time are known *a priori*, firstly as wholes which necessarily determine the character of their parts, and secondly as necessary conditions of experience.² If they were not *a priori* ideas in the first sense, they would not be *a priori* ideas in the second sense.³

It is unfortunate that Kant does not sufficiently distinguish, and explicitly connect, these two senses, yet it is the real connection between them which is at the root of his ambiguous use of the term.

' The conclusion of the whole matter would seem to be this. Space and time are necessary for Kant only in relation to human experience, but by this he means more than that we have never had an experience without them. He means also (1) that we cannot conceive experience without them; (2) that when we consider them in themselves (after eliminating in thought the objects with which they are filled), we can determine their nature through and through; and (3) that in this way we

¹ See, for example, the meaning of pure or *a priori* intuition in Chapter IV § 3.

² These two senses are bound up with the possibility of pure mathematics and the possibility of applying pure mathematics to the actual world. In saying that space and time are wholes which necessarily determine the character of their parts, I mean that in knowing space and time as wholes we know what their parts must be. They have thus what may be called an internal necessity as pure intuitions; and only so are we justified in regarding them as necessary forms or conditions of sensuous intuition. Compare Chapter XXX § 5.

³ Sensation, although necessary to experience, is not (in abstraction from experience) a whole which necessarily determines the character of its parts. Hence it can be known only by experience, that is, *a posteriori*. It is necessary to experience only as the matter (the empirical or conditioned element), not as the form (the *a priori* or conditioning element).

can determine, independently of experience, the spatial and temporal conditions to which all objects of experience must conform. If we were living in the eighteenth, or even the nineteenth, century, we should, I think, have little justification for denying these assumptions of Kant's subsequent argument.

§ 5. *Modern Mathematical Theory*

Unfortunately for Kant the development of modern mathematics, and of modern mathematical theory, casts grave doubt upon his assumptions in regard to geometry, and threatens, if it does not undermine, his position. This fact can be discussed profitably only by those who possess expert knowledge of modern mathematical philosophy; but it cannot be ignored without intellectual dishonesty, and some allusion must be made to it, even at the risk of displaying misunderstanding. A lucid and concise account of the new theories is given by Professor Stebbing in *A Modern Introduction to Logic*.¹ Although she there mentions earlier views of geometry, she ignores those of Kant.

According to the modern view mathematics now aims at so high a degree of generality and abstractness that it has ceased to have any essential connexion with quantity, and *a fortiori* with space. The result is that formal logic, mathematical theory, and pure mathematics, are all merged into an indivisible whole, and this whole is described as pursuing an analytical method.

It is not clear to me whether this theory is dealing with the same subject, or using words in the same sense, as Kant.

The logic which is said to be identical with mathematics is not the Formal Logic of Kant. Although it professes to deal only with pure forms (as did his), it brings in what he would regard as matter.² Furthermore the analysis which is spoken

¹ See especially Chapter X § 4 and Chapter XXIII § 4 of that work. An article in *Mind*, N.S. Vol. XXXVIII, No. 149, p. 1 (January 1929), by Professor Hardy can also be consulted with advantage. It mentions other theories than those prevailing in England, but it is hard to relate to the Kantian doctrine even those theories which insist on an element of intuition.

² See Chapter X § 4 of this book.

of is different from Kant's analysis; it is more than an analysis of concepts, and Kant seems to be right in denying that mathematics is a mere analysis of concepts. This fact is important for Kant's criticism of metaphysics, and it means that mathematical propositions are not analytic in his sense.¹

Again, the 'deductive development' discussed and created by the new theories is not primarily a method of producing conviction, nor is it a method of discovery,² nor is it even important as a method of proof.³ The method of analysis cannot be applied at all, except when a branch of mathematics has already developed a considerable way. As Kant is talking only of the method by which such a branch of mathematics, namely Euclidean geometry, has developed, it is difficult to see what is the relation between his statements and the modern theories. They seem to begin where he leaves off.

Nevertheless we must assume that the modern theories deny his main contention, that pure intuition is necessary for mathematics. 'Mathematics can be exhibited as a completely logical structure, so that no element of intuition enters into a mathematical proof'.⁴ Curiously enough, the only intuition considered is empirical intuition, and the geometry of which Kant speaks is regarded as empirical geometry⁵—a hard saying, and one for which Miss Stebbing offers no reason.

On the modern view a pure mathematical science is a deductive system which consists of primitive concepts, primitive propositions, and deductions from these.⁶ The primitive concepts are taken as undefined and intelligible without definition. The primitive propositions are assumed and not demonstrated.⁷

We have, however, to establish the consistency of our primi-

¹ If Mr. Bertrand Russell means to deny this when he says that mathematical propositions are 'tautologous generalisations' (*Mind*, N.S. Vol. XL, No. 160, p. 477), the inexpert can hardly but ask whether this assertion is due to a special insight into the nature of mathematics or to a logic which has lost its way.

² Stebbing, p. 463.

³ Ibid. p. 177.

⁴ Ibid. p. 463.

⁵ Ibid. p. 457.

⁶ Ibid. p. 458.

⁷ Ibid. p. 175.

tive propositions, and for this 'interpretation' is necessary.¹ Indeed apart from interpretation there can be no question either of consistency or of truth.² To interpret the undefined concepts is apparently to find objects for them,³ and indeed to find objects which fit into a system.⁴

It is just this finding of objects, and of a system of objects,⁵ which Kant would consider to require the intuitional element necessary both to the truth and to the consistency of mathematics, and fatally lacking in the metaphysics which he set out to criticise.

A further question I should like to ask is whether any system of objects does not in the last resort involve space and time. I should also like to ask whether this highly abstract mathematics, if it is to give us geometrical conclusions, must not be so interpreted that its objects are spatial figures which can, in Kant's language, be constructed *a priori* in pure intuition.

§ 6. *Kant's View of Algebra*

There is another point to be noted. Hitherto we have spoken of geometry, which is most prominent in the Aesthetic. Kant, however, believed that arithmetic and algebra also demanded intuition, and pure intuition. This is discussed on an elementary level and in inadequate detail, but he seems to be moving in the direction of that greater abstractness and generality which the modern theories demand, although he does not go so far as to escape from the idea of quantity.

Kant maintains⁶ that algebra constructs quantity (*quantitas*), not *quanta* as in geometry. It abstracts entirely from the character of the object which is to be thought under its concept of quantity, and chooses a notation for all constructions of

¹ Stebbing, p. 179.

² Ibid. p. 178.

³ Ibid. p. 179.

⁴ Ibid. p. 207.

⁵ If they fit into a system, I presume they must constitute a system.

⁶ A 717 = B 745. The meaning, and even the text, is in places uncertain. Compare also Chapter XXXVII § 8.

quantities¹ in general—that is to say, it uses signs for such operations as addition, subtraction, extraction of roots, and so on. It also uses signs² for the different relations involved in the concept of quantities³—I suppose such signs as =, <, >. The ‘quantities’ are presumably indicated by signs such as x , y , and z , and perhaps by numerals. Then—and this is the point—it *exhibits in intuition, in accordance with certain universal rules, every operation⁴ through which quantity is produced and altered*. Thus there is in algebra a *symbolical construction*, which, equally with the ostensive constructions of geometry, can give us results unattainable by mere analysis of concepts. This symbolical construction, or construction by means of signs,⁵ also involves intuition.

It is unfortunate that this is so obscure. Kant fails to make clear the nature of the intuition involved—it would seem to be primarily a pure intuition of time,⁶ and perhaps also of space.⁷ I mention the passage, not as offering a satisfactory account of algebra, but simply as showing that for Kant the reduction of geometry to algebra does not mean that pure intuition ceases to be necessary.

§ 7. *The Necessity of a priori Construction*

I do not know whether or not Kant is right in saying that algebra exhibits its *operations* in pure intuition, although I think that his doctrine deserves consideration. If we set this

¹ These ‘quantities’ or *quantitates* (if the word may be pardoned) are opposed to *quanta*: they are numbers as opposed to figures or durations; see A 724 = B 752.

² ‘bezeichnet.’

³ ‘The concept of quantities’ is presumably the same as the concept of ‘quantity’ or ‘quantitativeness’.

⁴ It is interesting to observe that the modern view regards the primitive concepts as symbols upon which we *operate* by means of the primitive propositions (Stebbing, p. 178).

⁵ Compare A 734 = B 762.

⁶ This view seems to rest on the ground that counting is always successive; see A 142-3 = B 182 and *Prol.* § 10 (IV 283). Some qualification of this is suggested in a letter to Schulz of November, 1788 (X 530). Compare also *K.d.U.* § 26 (V 251 ff.).

⁷ *Nachlass* 6314^f (XVIII 616).

doctrine aside, and consider only Euclidean geometry, it is clear that Kant believed geometrical proof to depend throughout on intuition of spatial figures, whereas on the modern theory the intuitional element occurs only at the beginning, when we are establishing the consistency of our primitive propositions.

If we suppose the modern theory to give a true account of modern mathematical method, there is no reason why we should suppose that it therefore gives a true account of the method of Euclid. On the contrary, the method of Euclid is, it seems to me, explained correctly by the theory of Kant.¹ If we take the concept of triangularity, we can analyse it till we are blue in the face, but unless we construct a triangle in intuition, we shall never advance a step beyond our original definition of the concept; we shall never discover, for example, that the three interior angles are equal to two right angles.²

This does not mean that geometrical proof depends upon empirical intuition. How could the empirical intuition of one triangle give us, or even seem to give us, that apodeictic certainty which Euclid undoubtedly claims? We may be obliged to draw a triangle on paper in order to help our imagination, but we are not thinking about the seen triangle.³ We are thinking about a triangle whose characteristics are determined only by the principle of its construction. In Kant's language we are thinking about a triangle which we construct *a priori* in pure intuition in accordance with the concept. This language may possibly be naïve from the modern point of view. It is nevertheless expressive of a truth which may be in need of reinterpretation, but which cannot reasonably be ignored.

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¹ I believe that Kant's theory is very closely akin to the theory of Plato. See *Republic*, 510d, and compare Aristotle, *Metaphysics*, A 6, 987b, 14 ff. See also Adam's edition of the *Republic*, Book VII, Appendix I.

² A 716 = B 744.

³ Or at least we are thinking about it, not as a seen triangle, but as having characteristics entirely determined by the principle of its construction. On these characteristics the whole proof depends. This is what Kant means when he speaks (A 240 = B 299) of figure as an appearance present to the senses, although created *a priori*.

I believe that the same doctrine holds in arithmetic, although there it is not so obvious. We can analyse the concepts of 7 and of 5 and of addition, but such analysis will never teach us that $7+5=12$, unless we construct the numbers in pure intuition. Here again we make use of empirical intuition to help us, but we are not thinking about the dots we put on paper, or the beads on the counting-board, with all their irrelevant and empirical characteristics.¹ We are thinking about numbers which we can construct *a priori* in pure intuition by adding unit to unit, and the characteristics of these numbers are determined only by the principle of their construction.²

If we may summarise Kant's doctrine—all mathematical knowledge depends on the 'construction of concepts', by which he means exhibiting *a priori* the intuition corresponding to the concepts.³ For this purpose we may use empirical intuition; for example, we draw a triangle on paper. In so doing, however, we consider only the act of construction, to which much in the empirical figure is indifferent, as for example the size of the sides and angles. Since we can abstract from these, the individual figures can express the concept without impairing its universality. Mathematics deals with the universal as manifested or expressed in individual instances.⁴ This is something quite different from a mere analysis of concepts.

I am not unaware of the fact that I am treading upon treacherous ground, but I am convinced that whatever errors there may be in my contention, there would be a still greater error in supposing that there is no shadow of reason in the doctrine of Kant.

§ 8. *Modern Geometries*

A still more serious difficulty for Kant is the development of non-Euclidean geometries. Kant himself, when younger,

¹ B 15; A 240 = B 299.

² Compare the difference between *λογιστική* and *ἀριθμητική* (Plato, *Philebus*, 56 d, e).

³ A 713 = B 741.

⁴ A 713-4 = B 741-2.

had flirted with the idea that there might be different kinds of space with other dimensions, and had connected it with Leibniz's speculations in regard to a plurality of different worlds.¹ In the *Kritik* he assumes geometry to be Euclidean, and assumes also that Euclidean geometry is necessarily true of the physical world.

We are now told that there are different kinds of geometry and different kinds of space. Such a view is not in itself fatal to Kant's doctrine that our knowledge of space is *a priori*; for *a priori* knowledge may be acquired gradually and may at any stage be 'confused' or 'indistinct'.² The possibility of new mathematical concepts is certainly not excluded by Kant's theory,³ but on his suppositions every different kind of space would seem to imply a different kind of pure intuition. This view is difficult, if not impossible, unless there can be one fundamental intuition of space (or of space-time) such that all others are intelligible only in relation to it. It is hard indeed to believe that the different kinds of space are unconnected with one another; and if a set of propositions in one geometry can be replaced by a different, though corresponding, set of propositions in another geometry, there would seem to be some sort of underlying unity whose nature deserves investigation. Modern theory, so far as I understand it, denies that any one kind of space is more fundamental than any other. Above all it denies that Euclidean space is more real or fundamental than any other. If Kant's theory is to be maintained in a modern form, we should have to hold that there is a pure intuition

¹ *Gedanken von der wahren Schätzung der lebendigen Kräfte*, § 10 (I 24).

² For example, the analysis of given *a priori* concepts, such as categories, may be 'indistinct'. The concept may contain 'obscure' ideas which we pass over in our analysis, and we can never be certain that even the most careful analysis of such concepts is complete. See A 728 = B 756.

³ Mathematical concepts can be completely defined, but this is because they are 'arbitrary' inventions (which must, however, be compatible with the nature of space) and contain an arbitrary synthesis which admits of *a priori* construction. See A 729-30 = B 757-8, and compare Chapter IX § 5 for the 'arbitrariness' of such concepts.

of space-time in the light of which all the different geometries are intelligible.¹

The difficulty of defending Kant's doctrine becomes even more acute, if only one of these geometries, and that not the Euclidean, applies to the actual space of the physical world.² On such a view it looks as if the application of geometry to the physical world is a purely empirical question. Nevertheless even in that case one of the pure geometries does apply to the physical world, and it seems to be assumed that one of them must so apply:³ we appeal to experience only to discover which. If one of the many geometries does apply, and still more if one must apply, to the physical world, we have Kant's problem before us in a more subtle form: it can hardly be a mere coincidence that some highly abstract system of geometry holds of the actual world; and it is the duty of philosophy to ask for an explanation. The same problem would arise in a form still closer to Kant's assumptions, if what we may call physical space could be interpreted in terms of all the different geometries, even if one were very much more convenient for the purpose than others.

It must be added that the advance of modern physics involves changes also in our views about time, but this does not necessarily imply that our knowledge of time is empirical, even although it is experience which has led us to make new discoveries. If the physicist still presupposes that we know something of what the parts of time must be to be parts of time, or even that we know something of what the parts of space-time must be to be parts of space-time; and if the philosopher can still say that all our ideas must be either simultaneous or successive; then time, like space, has still in some sense its doubly *a priori* character, and we need no more for the purposes of Kant's argument.

¹ Mr. Braithwaite seems to suggest that there is one absolute space-time; see *Mind*, N.S. Vol XL, No. 160, p. 498.

² I understand that this view is no longer held by Einstein.

³ This need not mean that the same geometry must apply to every bit of space, but only that some kind of geometry must do so.

Kant's doctrine is altogether too simple in the light of modern discoveries. We must recognise that many propositions which he (and his contemporaries) were prepared to assert *a priori* of the actual world are definitely untrue. Above all we must recognise that no sufficient account of space and time can be given, if we isolate them from one another. For my own part, though I speak as the merest amateur in these matters, I do not see why it should be impossible to re-state Kant's assumptions so as to fit in with modern physical doctrine. It seems to me at least possible that space-time is the condition or form of all appearances given to sense; that we can gradually sort it out, by a special kind of abstraction, from the appearances of which it is the form, and study it mathematically as an individual whole which is intelligible through and through; and that in so doing we can discover laws to which the world of appearances must conform. Such suggestions are, however, hazardous and must be left to the expert. For the purpose of understanding Kant we must place ourselves at the point of view of the eighteenth century; and from that point of view I would urge that Kant's assumptions are, in the main, sound.

CHAPTER VIII

SPACE AND TIME—KANT'S CONCLUSIONS

§ 1. *The Connexion of Space and Time with Sensibility*

We must now assume, for the purposes of the argument, that our ideas of space and time are pure intuitions whose content is the necessary form of all appearances given to sense. This doctrine, as I have explained it, contains nothing to alarm even the most suspicious of realists; yet Kant finds in it grounds for asserting that space and time are necessarily subjective in origin, due not to the nature of things, but to the nature of our sensibility.

There is no further argument to connect space and time with sensibility rather than with understanding. We must suppose the connexion with sensibility to be established by the previous arguments; but it is not altogether clear whether this connexion is proved by the fact that space and time are pure intuitions or by the fact that they are forms of sensible appearances.

It may be maintained that if space and time were connected with understanding, our ideas of them would (like the categories) be given as concepts originally, whereas Kant has argued that in their case the concept is derivative and the intuition original. If space and time are one and individual, our knowledge of them must be intuitive, and therefore it must be sensuous; for we have no power of intellectual intuition.¹

¹ It may be objected that intuition normally implies a real object given to sense by the 'influence' of things-in-themselves; and that since pure intuitions imply no such object, they might seem not to involve sense. It is hardly an answer to this objection, if we say that we could not acquire these pure intuitions or make them 'clear' to ourselves, unless our senses were affected; for the same is true of the categories, which do not originate in sense. Compare A 86 = B 118, A 96, and A 196 = B 241. The answer must, I think, be that our pure intuitions are connected with sense primarily because they contain the forms of sensible appearances, and in a lesser

It may also be maintained that the connexion with sensibility is shown by the fact that space and time are conditions of objects being given to sense, and not conditions of their being thought. We simply *see* red as extended, and so as spatial, while we *think* that it is a quality of a substance. Similarly we are immediately aware of sensa as before and after, while we *think* that events are connected as cause and effect.

There is no reason why we should not regard both these grounds as establishing the connexion of space and time with sensibility. We should have been grateful to Kant, if he had given a fuller treatment to this question, but on the whole he seems to have a good case. If space and time are to be regarded as subjective in origin, it is reasonable to find their origin in sensibility rather than in understanding.

§ 2. *The Subjectivity of Space and Time*

What are we to say of Kant's more fundamental doctrine that because space and time are known *a priori*, they must have a subjective origin?

In the first place we must be clear what the doctrine means. It does not mean that space and time are mental; for space at least is a predicate, not of the mind, but of things as they appear to us, that is, of objects of sensibility.¹ Even time is a condition of all appearances (inner and outer), and whatever Kant may mean by saying that it is not a determination of outer appearances,² there can be no doubt that for him all objects of the senses must be in time.³ The objects of the senses are, in his view, appearances of things whose character and existence is entirely independent of the nature of our minds. None the less the spatial and temporal characteristics

degree because only sense can give us what is individual. The reason why pure intuition has no real object is simply that its content is the form, not the matter, of given appearances.

¹ A 27 = B 43. When Kant speaks of space as a predicate, he must mean the general concept of spatiality.

² A 33 = B 49.

³ A 34 = B 51. This applies not only to sensa, but also to bodies.

of sensible objects belong (so far as we know) only to the things as they appear to us, not to them as they are in themselves. We human beings cannot apprehend things except as spatial and temporal, but we have no reason to believe that the things as they are in themselves are either spatial or temporal; for space and time are imposed on appearances by the nature of our sensibility.

It is impossible to invent any exact parallel for this revolutionary doctrine, but if we looked at everything through blue spectacles, we could say that the blueness of things, as they appeared to us, was due, not to the things, but to our spectacles. In that case the spectacles offer a very rough analogy to human sensibility in Kant's doctrine.¹

In the second place we must be clear about the nature of Kant's argument. His argument does not rest merely on the ground that we cannot conceive any experience except as spatial and temporal. It rests on what I have called the doubly *a priori* character of our ideas of space and time. Its ground is (1) that we can determine the nature of space and time through and through independently of experience; and (2) that in this way we can determine, independently of experience, the spatial and temporal conditions to which all objects of experience must conform.²

Kant's contention—however unpalatable it may seem at first sight—is that if things appeared to us just as they are in themselves, we could not legislate for them independently of experience. We could recognise that, so far as we had experienced them, they possessed certain characteristics, and we might anticipate that they would continue to do so. We could

¹ It may be noted incidentally that although the blueness of things would be imposed by our spectacles, (1) we should not first of all see things as non-blue, and then see them as blue; and (2) the differences in the shades of blueness would be due, not to our spectacles, but to things. These obvious facts may perhaps help to make clearer my contentions in regard to form and matter—see Chapter VI § 8.

² Compare Chapter VI § 5. All this is implied in the statement that space and time are pure intuitions whose content is the necessary form of appearances.

say, for example, that every triangle hitherto measured had its interior angles equal to two right angles; and we might expect other triangles to have the same characteristic, just as we might expect any swan we see to be white. But we could not assert that the interior angles of every triangle must be equal to two right angles, and that this law must necessarily apply to every triangle that we see. Still less could we work out a necessary system of geometry to which all experienced objects must conform.

If we can determine the nature of space and time independently of experience and thereby legislate for all possible objects of experience, this can only be (according to Kant) because space and time are due to the nature of our sensibility. No other explanation can account for the fact that our abstract knowledge of space and time possesses apodeictic certainty and also applies to all objects of experience. Kant's theory is not merely possible or probable. It claims to be absolutely certain.¹

If space and time are due entirely to the nature of our sensibility, it is obvious that we can have no ground for suggesting that nevertheless they might *also* belong to things as they are in themselves. It is equally obvious that the empirical qualities revealed in our *sensa*, although they are due to the 'influence' of independent things, cannot be qualities of these things as they are in themselves; for such empirical qualities are necessarily spatial and temporal.² Indeed the latter point is hardly in need of argument, since the *sensa* vary from individual to individual (as the spatial and temporal characteristics when scientifically determined do not). This means that they depend partly upon something other than the thing of which they are the appearances.³

¹ A 48-9 = B 66.

² It seems meaningless to say that a thing-in-itself has a colour which neither extends through space nor lasts through time.

³ According to Kant, as I understand him, although differences in the secondary qualities (and also in shapes, sizes, and durations) depend on the nature of things-in-themselves, this does not imply

§ 3. *A Rough Analogy*

The precise character of Kant's view of space and time may perhaps be made clearer by contrasting it with the rough analogy of the blue spectacles suggested above. Suppose we were all born with something like blue spectacles on our eyes, how—it may be asked—could we determine whether the blueness of things really belonged to things-in-themselves or not?

We must assume for this purpose that our only sense is sight, so that the blueness of things is as universal as their spatial and temporal characteristics. We must also assume that it would be as impossible for us to imagine an object which was not some shade of blue as it is to imagine an object which does not occupy some space and last for some time. So far the cases are parallel, but there is nevertheless a fundamental difference between them.

We could recognise blueness as a common characteristic of all experienced objects; that is to say, we could have a concept of blueness: but if we had such a concept, what more could we do with it? There is no way of studying the necessary laws of blueness in abstraction, and thereby determining *a priori* the character of all possible objects.¹ Hence we could never have any ground for deciding whether blueness belonged to things in themselves or depended on the nature of our eyes.

that we have knowledge of things as they are in themselves. It implies only that we have knowledge of things as they appear to us.

We might indeed object that differences and likenesses in appearances must imply some sort of differences and likenesses in the thing, or things, that appear; but we have no means of knowing the respect in which things-in-themselves, or their qualities, differ from, or resemble, one another. We do not even know that there is a plurality of such things, or that things-in-themselves can have qualities, although we must think of them, by analogy, as a plurality and as having qualities. In such circumstances a statement of their differences and likenesses is too vague to convey positive meaning.

¹ We might indeed determine that the degrees of blueness are necessarily continuous, and that every object must have a degree of blueness. But in that case Kant holds, consistently, that the degree-ness (though not the blueness) must be imposed *a priori* by the nature of the mind. See the Anticipations of Sense-Perception.

This point may be put in another way. By abstraction we could think the concept of blueness, but we could never intuit the one infinite blue of which all blues are necessarily parts; yet unless we can do so, blue is not really analogous to space. Or if it be supposed that we could intuit the one infinite blue (on the ground that the only objection to this is the difficulty of intuiting the infinite, a difficulty which applies equally to space), then the intuition would be empirical. We could see no necessity why every blue area as such should be a part of a wider blue area. We could indeed see the necessity why every area should be part of a wider area, but this would have nothing to do with its blueness.¹ Our intuition of space would still be *a priori*; we could still determine the laws of space independently of experience, and thereby determine the laws governing all sensible objects. The intuition of blue would give us no such power, and we should have no sufficient ground for attributing it to the nature of our sensibility.

The status of space and time in experience is unique, and it is because of this unique status that Kant holds they must be attributed to the nature of the mind.

§ 4. *Subjectivity and Knowledge of Necessity*

Kant's Copernican revolution is intended to account for a necessity which we are assumed to know—the necessity that objects of experience should conform to the mathematical laws of time and space. Is it intended also to account for our knowledge of this necessity?

At first sight it would seem that there is no such intention. In the case of the categories Kant does indeed believe that by tracing them to their origin in the human understanding we make it possible to know what the categories must be. What reason produces entirely out of itself cannot be concealed,² and the 'clue' to the categories is to be found in the forms of

¹ The same criticism would apply to any argument that force, matter, or reality (which are supposed to fill the whole of space) must be known through pure intuition in the same way as space itself.

² A XX, etc.

judgement which are known *a priori* in Formal Logic. Nevertheless Kant does not regard the human mind as transparent in itself, or as more easily understood than the physical world.¹ He certainly does not believe our sensibility to be so transparent to reflexion that we can understand why it must involve the two factors of space and time.²

There is, however, a sense in which the Critical doctrine is put forward to explain our knowledge of necessity, and not merely to explain the necessity which we know. Kant, as I have insisted, is not arguing only that if space and time are due to the nature of our sensibility, this would explain why all objects must be spatial and temporal. Such a hypothesis would explain the assumed facts, but it could hardly be put forward as the only possible hypothesis.³ The two-fold character of the argument ought never to be overlooked. What Kant is attempting to explain is why our abstract knowledge of the necessary characteristics of pure space and time should be *also* a knowledge of the laws to which objects of sense must conform. His contention is that such knowledge is possible only if the pure intuition by which we know space and time is due to the nature of our sensibility alone.⁴

It can hardly be denied that Kant's doctrine offers a possible explanation of the facts, if we assume that these facts are

¹ He insists that even the sources of the Transcendental Dialectic (A 309 = B 366), the sources of mathematical knowledge (*Prolegomena* § 6 (IV 280)), and the schematism of the understanding (A 141 = B 180-1) are hidden deep in the human mind. Imagination is said to be a blind but indispensable function of the soul of which we are seldom conscious (A 78 = B 103). Compare also A 834 = B 862.

² Compare B 146. In this passage Kant appears even to deny that we understand why we must judge only through certain forms of judgement. This seems to be an overstatement of his case, but we have certainly no means of knowing the nature of our sensibility except by knowing the nature of its objects. Compare *Fortschritte der Metaphysik* (*Phil. Bib.* 46c, p. 92).

³ It would be parallel to the contention that a universal blueness must be due to the nature of our sensibility.

⁴ Compare also Chapter XXX §§ 6-7.

established by the previous Expositions, and in particular by the Metaphysical Exposition. The question to be decided is whether it offers the only possible explanation.

§ 5. *The Arguments against Leibniz and Newton*

The arguments by which Kant seeks to justify his 'Conclusions' consist largely of objections to the theories of Leibniz and Newton. This is natural enough, since his business is to dispose of alternative explanations; but there is always a danger, in this kind of argument, that some other real possibility may be overlooked.

Kant claims that if the doctrines he has set forth in the Expositions are true, they are incompatible with any doctrine of the Leibnizian type. If space and time are *forms or conditions of appearances*, and so of sensible objects, they cannot be mere characteristics¹ (whether qualities or relations) of such objects; for the object—at any rate if it is regarded as a thing-in-itself—is logically prior to its characteristics.² And if our ideas of space and time are 'originally' *pure intuitions*, they cannot be reduced to mere concepts (whether distinct or indistinct) of the common characteristics of things-in-themselves.³

These two arguments are not unconnected any more than the assumptions on which they rest are unconnected. Kant's entire theory rests on the view that while we cannot know appearances apart from space and time, we can know space and time independently of experience, as wholes which neces-

¹ '*Bestimmungen*.' These may be taken to cover both qualities and relations as in A 26 = B 42, where qualities are referred to as absolute, and relations as relative, characteristics (or determinations).

² See A 26 = B 42 and A 33 = B 49. For the parenthesis, see also A 267 = B 323 and compare A 276 = B 332.

³ This argument is put less clearly in the 'Conclusions'. Kant insists merely that the characteristics of things, inasmuch as they are essentially dependent upon things, cannot be intuited *a priori*. We can conceive such characteristics only by an abstraction from empirical intuitions. For the argument against making the difference between the sensible and the intelligible a logical difference between the distinct and the indistinct, see A 43 = B 60 ff.

sarily determine the nature of their parts.¹ This is the ground of his contention that space and time (1) are the form, not the matter, of appearances,² and (2) are known by pure intuition. It is also the ultimate ground of his contention that space and time (1) cannot be mere characteristics of things, and (2) cannot be known by mere conception.

Furthermore, if Kant is right in holding that the judgements of geometry are synthetic *a priori* judgements, space and time must be known by pure intuition: the mere analysis of concepts—and we can do nothing with concepts except analyse them—could never give us such judgements.

I must confess that I find it extremely difficult to estimate the force of these arguments. Kant seems to me to be altogether sound in denying that intuitions, whether empirical or pure, can be reduced to indistinct concepts. I believe he is also sound in maintaining that our knowledge of space and time is primarily intuitional and not conceptual, and that we cannot regard the spatial and temporal characteristics of objects as on an equal footing with other characteristics.³ But the question arises whether we cannot abstract from observed objects the system (or systems) of relations in which they stand, and discover in such a system a necessity which must govern all objects standing in these relations. Or rather—since it is Kant's contention that we can do this in the case of space and time—why should we maintain that such knowledge of necessity is intelligible only on the supposition that the system of relations must itself be imposed on objects by the mind which knows them?

The question is the more pressing because modern logic, as I understand it, claims to abstract various systems of relation and to find in them a necessity which gives us *a priori* knowledge of all objects standing in these relations. Spatial and temporal relations then become only a species of a more

¹ By this I mean that we know the parts only as limitations of the whole, and that knowing the whole we know what the parts must be.

² See Chapter VII § 4.

³ The spatial and temporal characteristics seem to be relational characteristics and therefore so far distinct from qualities.

abstract system of relations which can be dealt with adequately and sufficiently by formal logic. Unless we hold that all relations as such must be imposed by the mind—and I do not think this is Kant's position—why should not spatial and temporal relations be real relations of things as they are in themselves? Why should we not be content to recognise that, granted certain relations, we can grasp a necessity in them as we cannot in mere qualities? And why should we seek to explain our knowledge of this necessity on the ground that whatever contains this necessity must be imposed by the mind?

To deal with these questions adequately would take me far beyond the limited purposes of this book. I would only say, provisionally, that I think Kant's doctrine has to be accepted or rejected in the light of the answer to these wider questions. This means definitely that, taken in themselves, his arguments are not so conclusive as he imagines. Nevertheless I am inclined to suspect, though I recognise this may be due to ignorance, that space and time cannot be reduced to a logical system of relations.¹ They look to me like individual wholes which are known by pure intuition, and this pure intuition seems to me, as it did to Kant, to underlie all our concepts of the relations which they contain. I am also inclined to suspect that space and time have a unique status in our experience, and that we shall make no progress in our philosophy till this essentially Kantian doctrine is recognised.

Kant is attempting to do justice to this unique nature of space and time, and only by recognising this can we appreciate his theory. He maintains that Leibniz failed to account for the essential individuality of space and time. We have no business to explain this away; and the only way in which we can uphold this essential individuality is to regard space and

¹ If, for example, we say that in an army there are various relations of subordination and co-ordination, then (setting aside the point that such relations always presuppose space) it is quite untrue to say that ordination stands to subordination and co-ordination as space stands to left and right or up and down. Ordination is merely a concept of common characteristics: space is an individual whole within which alone certain relations are possible.

time as individual wholes given to the mind (on the occasion of sense-perceptions) through the nature of our own sensibility. The alternative is to treat space and time as things-in-themselves, and this Newtonian doctrine Kant believes to be inconceivable.

When we turn to Kant's treatment of Newton, the fundamental question we must ask seems to be this: Granting that by means of our pure intuitions of space and time we can know *a priori* the conditions, or forms, of all appearances, why should not space and time be real things which are at the same time conditions, or forms, of things, not only as they appear to us, but as they are in themselves?

It is a weakness in Kant's argument that he pays too little attention to this possibility. If we set aside the theological objection—that such a view makes space and time the condition of God's existence¹—we are left with the plea that the theory is inconceivable, inasmuch as it is self-contradictory.² When Kant asserts that on the Newtonian hypothesis space and time are nonentities (*Undinge*), he implies that the very concept of them contradicts itself.³ He appears to consider this so obvious that it needs no argument in its defence. He may mean that space and time, taken as things, have the contradictory character of being systems of relations which relate nothing;⁴ or he may find their contradictory character in the puzzles connected with infinity which are dealt with in the first two Antinomies.

The Newtonian idea of absolute space and time is now generally abandoned, so that perhaps we need not be greatly

¹ This seems to assume the strict universality of space.

² The most important passages are A 39-40 = B 56-7 and B 70-1. The former passage is quoted in Chapter VI § 4. The latter passage maintains that on this view space and time must be two infinite things which are not substances, but which are also not anything which really inheres in substances (as a common quality or relationship), yet which exist, and are the necessary condition of the existence of all things, although they remain over when all existing things are cancelled or annulled (*aufgehoben*). Compare also A 32 = B 49 and A 292 = B 348.

³ A 292 = B 348.

⁴ See *Diss.* § 15 D (II 404) and compare A 285 = B 341.

perturbed by the slightness of Kant's argument against it. It might, however, be replaced by a hypothesis of the same type: namely, that space-time, although not absolute in the Newtonian sense, is nevertheless a real thing; and that the contradictions which Kant finds in the idea of space and time as real things are due to the treatment of space and time in isolation from one another, and therefore can be set aside.¹ If any such hypothesis could be maintained, it would undermine Kant's whole position.

Kant is in any case justified in saying to his opponents that they must think out clearly the doctrine which they put forward as an alternative to his. They must make up their minds whether space and time are to be regarded as self-existent entities, or whether they are merely the common qualities (relational or otherwise) of such entities; it is illegitimate to regard them now in one way and now in another, or to hover vaguely between both possibilities without committing oneself to either. And if our only choice lay between the doctrines of Kant and those of Newton or Leibniz, the doctrines of Kant would have a very strong claim upon our suffrage.

Nevertheless so far as Kant's argument rests upon the alleged impossibility of all other views, it must remain inconclusive, unless we are certain that the views examined are exhaustive. Negative evidence of this kind is a corroboration rather than a proof. What are we to say of the positive claims of Kant's doctrine itself? Do these hold independently of the view that the concept of space and time as real things is self-contradictory?

§ 6. *The Theory of Kant*

Kant habitually speaks as if his theory—that space and time are subjective in origin—followed inevitably from the doctrines established in the Expositions, and as if no other theory were compatible with these doctrines. It is not easy to see why this should be so, unless we hold that every theory of the Newtonian type is excluded as in itself too ridiculous

¹ This view is, I think, the view of Professor Alexander.

for serious consideration.¹ If we do hold this, Kant's contention becomes much more obvious; and I am inclined to think that a supposition of this kind, though generally not made explicit, is always present in his arguments for the subjectivity of space and time.²

So far as I can discover, Kant nowhere asserts that the Newtonian doctrine is incompatible with the Metaphysical and Transcendental Expositions. He apparently admits that if space and time were real things, our knowledge of space and time would be *a priori* knowledge of objects in space and time.³ This may mean that the Newtonian theory is compatible both with the existence of pure mathematics and with its applicability to the physical world;⁴ and if so, it would also be compatible with the doctrine of the Expositions.

If we accept this conclusion,⁵ Kant's whole argument against Newton rests on the inconceivability of space and time as real things; and his claim—that only by the Copernican revolution can the doctrines of the Expositions be rendered intelligible—is directed solely against the philosophical theories of Leibniz, which at that time were dominant in Germany.

When Kant is understood in this way, the argument becomes much more plausible. Space and time cannot be real things,

¹ '*pertinet ad mundum fabulosum.*' See *Diss.* § 15 D (II 404).

² I think, for example, that it may be present in B 41.

³ In A 40 = B 57 Kant says that the supporters of the Newtonian hypothesis open up (*freimachen*) the field of appearances for mathematical propositions (*Behauptungen*). I take this to mean that they can account for the possibility of the application of mathematics to actual things. (The word '*freimachen*' is also used for 'franking' letters, which I suppose means making them free of the post.)

⁴ Such an interpretation seems to me to be supported, at least by implication, in *Diss.* § 15 D (II 404).

⁵ Kant can hardly believe that on the Newtonian view mathematical knowledge, although *a priori* in relation to physical things, would in itself be empirical. He suggests, rather curiously, in the *Fortschritte der Metaphysik* (*Phil. Bib.* 46c, p. 91), that if space were the form of the object as it is in itself, we should have to know it by an empirical *a priori* intuition; and (on p. 93) that our synthetic *a priori* judgements would be empirical and contingent, which is self-contradictory.

or independent substances, for this is inconceivable and self-contradictory: but equally they cannot be qualities or relations of real things; for if they were, they would be dependent upon the things, whereas we have seen that the things are dependent upon them. If we regard them as due to the nature of our sensibility, their inconceivability or self-contradiction is supposed to disappear; and it at once becomes intelligible how, although they can be known in abstraction from objects, they can nevertheless be the condition of objects—provided always that such objects are things as they appear, and must appear, to our sensibility, not things as they are in themselves.

This interpretation has the further merit that it gives us an argument from the logical priority, and not from the temporal priority, of our knowledge of space and time. As I have said, I think it rash to affirm that Kant ever confused logical and temporal priority;¹ and I do not believe that we need attribute to him anything so crude even in the *Aesthetic*, where his terminology is unhappily applied without explicit repudiation of a temporal meaning.² But even if we are convinced by the arguments, so strongly urged by Professor Prichard,³ which attribute this confusion to Kant, it is all-important to decide whether Kant's reasoning rests entirely upon this con-

¹ Chapter III § 3.

² Compare Chapter VI § 7. It is important to notice, not only that Kant expressly repudiates this doctrine of temporal priority elsewhere, but also that in works like the *Dissertation* and the *Streitschrift* where such repudiation is found, he continues to use expressions like 'before' and 'precedes', which suggest a temporal interpretation. Professor Prichard relies primarily on the *Prolegomena*, and it should be noted how in § 10 of that work Kant argues that because space and time *remain over* when we eliminate the empirical element, they are therefore pure intuitions, and therefore forms of sensibility which must *precede* all empirical intuition. The same combination of remaining over and so preceding is also to be found in the *Streitschrift* (VIII 240), and it suggests that to 'precede' does not mean to 'precede in time'. Compare also *Anthr.* § 7 *Anmerk.* (VII 141): 'The formal constitution of this receptivity cannot be borrowed from the senses, but must (as intuition) be given *a priori*, that is, it must be a sensuous intuition which *remains over* if everything empirical . . . is eliminated.' The italics are mine.

³ In *Kant's Theory of Knowledge*.

fusion, or whether his thought contains a deeper and more legitimate contention. For my own part I have no doubt whatever that it does; and it is this more legitimate contention which alone has any claim upon our consideration.

§ 7. *Human Experience*

Kant's arguments apply only to human experience, and he regards as conceivable a knowledge which depends, not on sensuous, but on intellectual, intuition.¹

Intellectual intuition would not, like sensuous intuition, depend on objects given to it from without: its objects would be given, or produced,² by the very act of intuition itself. Of such an intellectual intuition space and time would not be forms. They are forms of sensuous intuition alone. Hence if we conceive the divine mind as possessing intellectual intuition, the divine experience, if it can be called experience, would not be spatial or temporal.

Furthermore there might be other limited and dependent beings like ourselves whose experience was sensuous, but whose senses might be different from ours.³ For such beings space and time might or might not be the necessary forms of their sensuous intuitions. In this respect space and time differ from the categories, which (because they belong to pure understanding) would necessarily be involved⁴ in the experience of any rational being which depended upon any kind of sensuous intuition.⁵

Perhaps for the sake of completeness Kant ought to have asked whether we can have a non-spatial and non-temporal experience involving immediate intuition of an object. The

¹ B 71-2. Sensuous intuition is passive, intellectual intuition active.

² B 145. Compare B 72, B 135, B 139. This, I suppose, is the characteristic of *νόησις νοήσεως*.

³ That is to say, their sensibility would be passive, but they would be unaware of colours, sounds, and other human *sensa*.

⁴ This is true only of the unschematised categories.

⁵ B 148. Space and time, as confined to human experience, have a more limited universality and necessity than the categories (which are not so confined).

mystic's vision of God is sometimes described as if it were such an experience. Kant would presumably dismiss such a claim as mere *Schwärmerei*.

These speculations may seem unnecessary and artificial. Nevertheless they serve to bring out important aspects of Kant's doctrine. They confirm, for example, the view that we do not understand why sensibility as such should involve space and time. More important still, they show that the necessity of which Kant speaks is a necessity in relation to human experience. It is too often forgotten that Kant is consistently protesting against a metaphysic which claims by the exercise of pure reason to determine the necessary characteristics of ultimate reality. He is content with the humbler task of determining the element of necessity within human experience as such.

I do not think it a justifiable criticism to say that on this view everything is reduced to a mere matter of fact, and that the forms of human intuition might change. The latter supposition itself presupposes the form of time, and apart from so doing it is to us quite meaningless. And if we can know space and time independently of experience, and also understand how space and time are necessary to experience, not as its matter, but as its form or condition, it would be foolish not to admit that the facts of space and time, if we choose to call them so, are not on the same footing as the facts determined by mere observation.

Kant does not explain how we know that space and time are conditions of the experience of other men, nor even how we know that there are other men who have experiences. On a common-sense level we are, no doubt, entitled to assume both. The existence of other men is presupposed in our thought and action; and all our thinking, conspicuously scientific thinking, presupposes also a common world of spatio-temporal objects which we know. Nevertheless Kant's doctrine (that space and time are forms of appearances only) involves the consequence that we know ourselves as appearances only, and *a fortiori* that we know others as appearances only. Hence our

knowledge of other men and their experience demands from him a special discussion which it does not receive.¹

It may also be asked how we can know that the same space and time exist for different minds. Even if we assume that each mind comes to reality with similar forms of sensibility, would not this imply that each mind was aware of appearances in a similar, but different, space and time? This question Kant, so far as I know, has not raised. For my own part I find it difficult to understand what could be meant by saying that each of two men was aware of an infinite and homogeneous space (or time), but that nevertheless the spaces (or times) were different. I should have thought that here, if anywhere, the principle of the Identity of Indiscernibles was valid.

§ 8. *Space and Time in Relation to Things-in-themselves*

Are we entitled not only to assert that for us space and time must apply to all appearances, but also to deny that things-in-themselves are spatial or temporal?

Strictly speaking, we are entitled to say of things-in-themselves only that we do not, and cannot, know them to be in space and time. Since we do not know them at all, we cannot say what they are not. Nevertheless Kant habitually uses the stronger expression, and I have not scrupled to follow him in so doing.

If Kant's arguments are sound, the possibility that things-in-themselves might be spatial and temporal is an empty and ungrounded possibility, and one which could serve no useful purpose in our thinking. If we put on a pair of blue spectacles, it is possible (in default of other evidence) that at the same time the whole world really turns blue. It is also possible that the moon, as a thing-in-itself, is made of green cheese. The supposition that things-in-themselves might be spatial and temporal is of the same order. We are supposing it to be proved

¹ For the Kantian philosophy it is at least as necessary to justify our belief that there are other minds which are centres of thought and action as it is to justify our belief that there are permanent physical substances which are centres of force.

that space and time as known to us are entirely due to the nature of our sensibility. To insist that things-in-themselves might nevertheless be spatial and temporal, though we could never know them to be so, is to suggest the possibility of a pre-established harmony in which we have no reason whatever to believe, and which, if it existed, could make no conceivable difference to us.¹ To entertain groundless possibilities is no part of the work of philosophy, and Kant is not to be blamed for refusing to admit as a real possibility one which rests upon no positive grounds, but merely upon blank ignorance.²

Strictly speaking, however, all Kant is doing is to set a limit. On this side of the limit are appearances which must be temporal and spatial. Beyond that limit are the things-in-themselves of whose characteristics we know, and can know, nothing.

§ 9. *Time and Things-in-themselves*

If any positive grounds are brought forward in favour of the view that space and time characterise things-in-themselves, they must be considered on their merits. One argument of this sort is examined by Kant in relation to time.³

Change, it is urged, is real, even if the only change is change of our ideas; and since time is the condition of change, time must be real too.

Kant regards the answer to this as easy. Time is real, but only subjectively, only as the condition of human sensibility, or as the form of inner sense. That is to say, human sensibility is such that I must be aware of my inner states as a succession of changing events in time. If there were an intuition other than sensuous, such intuition might, and he believes would, apprehend without any reference to time, and consequently without any reference to change, the very characteristics of the mind which we intuit as changes. Time like space depends,

¹ Compare B 166-7.

² In A 388 a Critical objection is said to show that a contention is groundless, not that it is wrong (we can show the latter only by knowing the object).

³ A 36-8 = B 53-5.

not on the nature of the thing-in-itself, but on the nature of the knowing subject. It is empirically real, and has under it necessarily all appearances of myself to myself. But this implies no absolute reality either of time or of change.

In a footnote he gets nearer to the real objection. There he admits we can say that our ideas follow one another, but this for him means merely that we are aware of them as in temporal succession—the temporal succession being due, as always, to the nature of our sensibility.

Even this hardly faces what seems to me the real point of the argument. Kant takes the contention to be that we are aware of our ideas (or inner states) as changing in time, and he has no difficulty in showing that we are equally aware of external objects as in space. Space and time are on precisely the same footing, and if one is only the form of appearances, so also is the other. The objector does not, however, mean merely that he is aware of his ideas, or inner states, as in time. He means that his awareness is also in time, or is also a temporal succession.¹ His contention is that time has a very special reality, because it is implied, not merely in what he is aware of, but in his awareness of it. What he is aware of may be mere appearance: his awareness of it cannot be mere appearance, but must be absolute reality. And if this is so, time must be, not merely empirically, but absolutely, real.

I presume Kant would reply that this contention is an error. When we say that our awareness is in time, we can say so, only if we are aware of our awareness, aware, that is to say, of a succession in our ideas. And if we ask whether our awareness of our awareness is not also in time, we embark upon an infinite regress, at any stage of which Kant would presumably give the same answer.

It should be added that when Kant denies that things-in-themselves are changing, he does not mean to assert that they are permanent and unchanging. Change and permanence

¹ I take this to be the real point of the objections raised by Lambert, Sulzer, Mendelssohn, and Schulz; see *Briefwechsel* (X 102, 107, and 110–111) and Vaihinger, *Commentar*, ii, pp. 400–1.

alike presuppose time, and Kant denies that we can justifiably attribute any kind of temporal characteristics to things-in-themselves.

§ 10. *Value of Kant's Argument*

It is not unreasonable to suppose that Kant, under the influence of Leibniz, continued to regard reality as composed of monads,¹ although he became convinced that the proofs advanced by Leibniz were fallacious,² and indeed that knowledge of ultimate reality is unattainable by man.

If we assume some such belief to be at the back of Kant's mind, it must be remembered that for Kant the conception of the monad has altered. His monads are not self-sufficient, and there is some sort of contact between the knower and the known. If the mind of man is a monad, it is not a windowless monad, but looks out through its windows at reality. Its windows, however, are not of transparent glass. As coloured glass imposes its colour on the objects seen, so the windows of our mind impose upon all objects sensed the forms of time and space, and it is only through these windows that we can be conscious even of ourselves.

I cannot think that such a view is to be rejected as an impossible or self-contradictory hypothesis, or that the arguments urged in its support can be set aside as negligible. The transcendental ideality of space and time has indeed the appearance of paradox; it is as repugnant to believers in common sense as it is attractive to those who look upon the physical world as a veil which partly conceals and partly reveals a deeper spiritual reality; but I do not see that its paradoxical character is sufficient to warrant its rejection. Nevertheless Kant's position, as it stands, cannot be said to have that demonstrative certainty to which he lays claim;³ it is rather in need of that clarification and defence for which he begs.⁴ Such attempts at clarification and defence may lead

¹ Compare A 359-60.

² The Amphiboly of the Concepts of Reflexion (A 260 = B 316 ff.).

³ A 48-9 = B 66.

⁴ B XLIII-XLIV.

to new philosophies in the future, as they have done in the past.

The discussion of space and time, it must be remembered, is the first of the three main arguments by which Kant seeks to establish his transcendental idealism—the other two being the Transcendental Deduction of the Categories and the Antinomies. No final judgement can be passed on any part, until his philosophy has been understood as a whole. For purposes of exposition we must assume that his central doctrines in the Aesthetic have been proved.

BOOK III

FORMAL AND TRANSCENDENTAL
LOGIC

CHAPTER IX

FORMAL LOGIC

§ 1. *Formal Logic*

Kant believed, as did most philosophers before the nineteenth century, that Formal Logic (or, as he called it, General Logic) was a science as certain as mathematics. It differed from mathematics in being a completed science. All the additions made to it since the time of Aristotle were, at the best, contributions to the elegance of the subject, not to its certainty: too often they were discussions illegitimately introduced from other sciences such as metaphysics and psychology.¹

The reason for the unique success and completeness of Formal Logic is the limitation of its subject-matter. Formal Logic is concerned only with the necessary laws of thought, which hold whatever be the nature of the objects thought about. It recognises that thought has an object, and it may be said to apply to all objects in general;² but it abstracts entirely from the character of the objects, and from all differences between them. Hence it is able to state the formal rules of all thinking, and to ignore the matter—that is, the content—of thought. For this reason it is a truly *general* logic; and in it understanding, as the faculty of thinking, is concerned only with itself and its own form.³

Differences in the objects about which we think produce differences in our thinking.⁴ Mathematical thinking, for example, differs in certain respects from biological thinking. If we had a logic of mathematical thinking, it would contain the rules for thinking rightly about a particular class of objects. As such, it would be no longer formal or, in Kant's language, general. It would be a *special* (or particular) *logic* dealing with a special (or particular) use of thought.⁵

Again, there are certain empirical conditions under which

¹ B VIII.

² *Log. Einl.* I (IX 16).

³ B IX.

⁴ Compare B VIII.

⁵ A 52 = B 76.

categories could apply to some objects, and not to others, is a contradiction in terms.

It may be objected that each category applies only to a particular kind of object, for example, that the category of cause and effect applies only to events. But an event is not an object in the strict sense; it is only a change in the accidents of a substance, and not itself a concrete thing. For Kant an object is a concrete thing, and every concrete real thing, so far as it can be experienced, must fall under all the categories: it must be a substance possessed of quantity and quality and interacting with other substances in accordance with the laws of cause and effect. We can no doubt consider different determinations and relations of an object in abstraction, but they are nevertheless only determinations and relations of an object, and not, properly speaking, objects themselves.¹

If Transcendental Logic is to prove that a number of categories necessarily apply to all objects given to sense, it will have to establish a series of necessary and universal synthetic propositions. These propositions are called 'Principles'; and to speak of Transcendental Logic as a science of pure concepts does not mean that it considers concepts only and ignores principles.

✓ § 3. *Transcendental Knowledge*

The use of such phrases as 'Transcendental Aesthetic' and 'Transcendental Logic' calls for some explanation of the meaning of the word 'transcendental'; and Kant at this stage²

¹ The view that I have taken is sometimes questioned, but it seems to me the only one that will make sense of Kant's doctrine. I have not found any absolutely unambiguous statement of it in the *Kritik* itself, but such a statement can be found in *Nachlass* 5932 (XVIII 391). If it be objected that this destroys the connexion between the categories and the forms of judgement, since the latter are alternatives, I can only reply that this is not true of the main divisions of the forms of judgement, and that I believe the theory at the back of Kant's mind is that all the forms of thought must be present in every judgement (and even in every conception); compare the identification of the form of the concept and the form of thought in A 239 = B 298.

² A 56 = B 80-1.

attempts to state what he means by calling knowledge 'transcendental'. His statement is unduly complicated,¹ and I will attempt to explain his doctrine more clearly.

While all transcendental knowledge is necessarily pure, it is not to be supposed that all pure knowledge is transcendental. Transcendental knowledge is knowledge of a critical or reflective or philosophical type; that is to say, it is knowledge that knowledge is pure or *a priori*. Thus the Transcendental Aesthetic is transcendental, since it shows that our intuitions of space and time are pure; and Transcendental Logic is transcendental, since it shows that the human mind possesses certain pure concepts or categories. Mathematical knowledge, on the other hand, is pure or *a priori*, but not transcendental: only the knowledge that mathematics is an *a priori* science can be called transcendental.

So far, to speak of knowledge as transcendental indicates only that such knowledge is a philosophical theory of the *a priori*; but I think we must also say it indicates that such knowledge is Kant's own philosophical theory of the *a priori*. On Kant's view *a priori* knowledge is possible only if it has its origin in the nature of the mind; and a transcendental theory² is a theory which attributes the *origin* of *a priori* knowledge to the mind.³

¹ Thus transcendental knowledge is said to be knowledge 'that and how' certain ideas (1) are *applied a priori* or (2) are *possible a priori*. This looks as if there were four things to be known transcendentially. A parenthesis suggests that these can be reduced to two: (1) the possibility, or (2) the applicability, of *a priori* knowledge. As possibility means real (not logical) possibility here, I am inclined to think that 'possibility' and 'applicability' mean the same thing. Later on transcendental knowledge becomes knowledge (1) *that* certain ideas are pure, and (2) (although even the grammar is hard to follow) *how* it is *possible* to apply them *a priori*—the word 'possibility' now referring clearly to the possibility of their application. (1) and (2)—or 'that' and 'how'—then refer to the Metaphysical and Transcendental Deductions respectively.

² I use the word 'theory' only to avoid a continual repetition of the word 'knowledge'. For Kant this theory is knowledge.

³ Or which attributes the origin of an *element in a priori* knowledge to the mind. Kant habitually uses 'knowledge' or 'cognition' (*Erkennt-*

We have seen in the case of space and time—and I believe it holds of the categories as well—that our *a priori* knowledge has not only a kind of internal necessity,¹ but also a necessary applicability to objects. This necessary applicability, or *objective validity*, must also be considered by a transcendental theory of the *a priori*.²

There is yet another point. A theory which attributes the origin of *a priori* knowledge to the mind will be forced, Kant believes, to conclude that the objects of which such knowledge is valid cannot be things as they are in themselves. Hence *a transcendental theory is a reflective theory of a priori knowledge which determines the extent and limits of such knowledge as well as its origin and objective validity*.³

It may be asked which of these many characteristics is the essential one in virtue of which a theory (or a piece of knowledge) is called 'transcendental'. I think we must reply that a theory is transcendental primarily because of its concern with the *origin* of our cognitions. It is because of our insight into 'origin' that we are able to determine 'extent' and 'limits', and even to determine 'objective validity'. A transcendental theory must deal with all these questions, but the cardinal question would appear to be that of origin.

nis) to indicate what is strictly only an element in knowledge. This seems to me reasonable enough and to offer no real difficulty to the intelligent reader: if Kant put the necessary qualifications into every sentence, the *Kritik* would be unreadable. Here, as always, it is our task to see the reality he is describing, and not to interpret his words in a merely mechanical way.

¹ The categories differ in certain fundamental ways from our intuitions of space and time, but nevertheless the unity of thought is supposed to differentiate itself into a necessary system of the forms of judgement and so of the categories.

² In the Aesthetic Kant's argument was that the combination of internal necessity and objective validity in *a priori* knowledge is possible only if the origin of such knowledge is to be found in the nature of the mind. In the Analytic the objective validity of the categories has to be 'deduced' or justified. In the Dialectic it is maintained that the Ideas of reason have no objective validity.

³ We have already seen, in §§ 1-2 above, that such are the characteristics of Transcendental Logic.

I have tried to state the position as simply as possible, but we must not wholly overlook the many complications which it involves. The *a priori* knowledge with which a transcendental philosophy is concerned is not only *a priori* knowledge proper, such as is to be found in mathematics and in the presuppositions of physics.¹ It covers also what merely professes to be *a priori* knowledge, namely, the metaphysical doctrines of the rationalists. Above all, it covers what is only an element in *a priori* knowledge, namely, our pure intuitions (of space and time) and our pure concepts (including both the categories of the understanding and the Ideas of reason). Indeed it is primarily our pure intuitions and our pure concepts whose origin is attributed by a transcendental philosophy to the nature of the mind; and our whole view of *a priori* knowledge (whether genuine or illusory) is determined by such attribution.

Since our pure intuitions and pure concepts, together with the capacities or powers in which they originate, are for Kant the necessary conditions of all *a priori* knowledge and indeed of all experience, transcendental knowledge may also be described as knowledge of the *necessary conditions of experience*.² We may put this otherwise by saying that transcendental knowledge is knowledge of what is logically prior to experience or of 'what goes *before* all experience (*a priori*)'. It is to be distinguished from 'transcendent' knowledge which is (or claims to be) knowledge of 'what goes *beyond* all experience' to the super-sensible or to the thing-in-itself.³

¹ Such as (in the eighteenth century) that every event must have a cause.

² This statement would require some qualification to cover the special case of Ideas of reason.

³ See *Prolegomena* (IV 373 n.). 'The word "transcendental" means . . . not something which goes beyond all experience, but something which goes before all experience (*a priori*).' It would be better to say that the word 'transcendental' as applied to knowledge indicates knowledge, not of something which goes beyond all experience, but of something which goes before all experience *a priori*. Kant, however, applies the word 'transcendental', not only to *knowledge* of the necessary conditions of experience, but also to these necessary conditions themselves.

The question naturally arises why Kant should use the word 'transcendental' to describe knowledge of this kind. Any answer to this question would be a matter of conjecture. In the time of Kant the word seems to have been used very vaguely, and was more or less equivalent to 'metaphysical'.¹ He adapted it to his own purposes, and gave to it the meaning which I have explained. If we find it helpful to think of transcendental knowledge as knowledge of that which transcends experience *as its necessary condition*, I do not see why we should refrain from doing so.

It should not, I think, either surprise or confuse us that Kant also applies the word 'transcendental' to the necessary conditions of experience themselves, so far as these have their origin in the nature of the mind.² There is much greater danger of confusion if the word is used also to mean 'transcendent'.³ We have already seen one example⁴ in which this is alleged to be the case—the transcendental ideality of space and time. We have now to consider another example, which is more troublesome.

§ 4. *The Transcendental Use of Knowledge*

Transcendental knowledge, so far as it is knowledge of the necessary applicability of an *a priori* idea, is knowledge of the *use* of such an idea. Kant therefore thinks it necessary to point

¹ The word seems to be derived from the schoolmen, who spoke of certain concepts—*ens, res, aliquid, unum, verum, bonum*—both as *transcendentia* and as *transcendentalia*, on the ground that they transcended the categories. This doctrine has its root in Aristotle; see Ross, *Aristotle*, p. 156.

² For example, in phrases like 'the transcendental unity of apperception' and 'the transcendental synthesis of the imagination'. These also, although they are immanent in experience, may be said to transcend experience, not in the sense of going beyond experience to the super-sensible, but in the sense of being conditions logically prior to experience. Compare B 151.

³ 'Transcendent knowledge' should be knowledge of what goes *beyond* experience, and anything which is 'transcendent' should be something which goes *beyond* experience.

⁴ Chapter VI § 9. I do not think that this example by itself is conclusive.

out that the *use* of the idea may itself be transcendental.¹ The sense in which 'transcendental' is applied to the *use* of an idea² is different from the sense in which it is applied to knowledge itself; and this may easily be a source of confusion.

The use of an *a priori* idea is *transcendental*, if the idea is applied to things in general or things-in-themselves:³ its use is *empirical*, if the idea is applied to sensible objects or objects of a possible experience. The transcendental use is always illegitimate; it is a misuse or abuse.⁴ Thus the category of cause has, according to Kant, an empirical use only: we can say that it must govern all objects given to sense in space and time. If it is applied to things-in-themselves, this is a transcendental and illegitimate use of the category.⁵ Similarly, if space is treated as a form of sensibility applying only to objects of outer sense, its use is empirical, although it itself is a pure intuition. Its use would be transcendental and improper, if the reference to sense were removed, and if space were treated as applying to things-in-themselves.

The *character* of an idea and its *use* are therefore quite

¹ A 56 = B 81. Compare A 139 = B 178 and A 238 = B 297-8, and see also Chapter LIV. He does this without the slightest warning that 'transcendental' is here used in a different sense.

² Or to the use of a power of the mind. See e.g. A 180 = B 223 and A 257 = B 313 for the transcendental use of understanding, and A 131 = B 170 for the transcendental use of reason.

³ A 238 = B 298. In Kant's copy of the *Kritik* (see *Nachträge* CXVII) 'things in general and in themselves' is corrected to 'objects which are given in no intuition, and therefore are not sensible objects'. In A 56 = B 81 the idea is said to be applied to 'objects in general', but in this connexion 'objects in general' is equal to 'things in general', and covers things-in-themselves.

⁴ A 296 = B 352. Note, however, that in A 94 Kant seems to speak of a legitimate use of the *powers* of the mind, which he nevertheless describes as transcendental. The statement in A 131 = B 170 (that the transcendental use of reason is never objectively valid) seems also to imply that there is a transcendental use of understanding which is objectively valid. 'Transcendental use' would here seem to be use in determining the conditions of experience, and so in determining the objects of experience.

⁵ Compare A 180 = B 223; also A 146 = B 185, A 238-9 = B 298, A 242, B 406, A 711 = B 739.

different things. Although an idea is itself pure or *a priori*, its use may be, and indeed ought to be, empirical. Such use, although empirical (in the sense of concerning only objects of possible experience), is still necessary and universal, for the idea necessarily applies to *all* objects given to sense.

This meaning of 'transcendental' seems to have little or nothing to do with the meaning of 'transcendental' when applied to knowledge. Kant's exposition would have been simpler, if he had spoken of the 'transcendent' and 'immanent' use¹ of ideas in place of the 'transcendental' and 'empirical' use.²

§ 5. *Can Transcendental Logic supersede Formal Logic?*

It is often said that Transcendental Logic must supersede Formal Logic,³ although Kant failed to grasp this necessary consequence of his own doctrine.

To such a view there are obvious objections. Even if Transcendental Logic were generally accepted as true—and this is far from being the case—it would still remain a logic which studied only a special kind of thinking, namely, synthetic *a priori* thinking. There must always be a logic which studies thinking in general; and although we may hold that such a logic cannot be purely formal in Kant's sense, and that it must

¹ Compare A 308 = B 365.

² Kant may be unconscious that he is employing 'transcendental' in two senses. When he speaks of 'transcendental use', he perhaps employs the phrase vaguely (for example, as meaning a use independent of experience), and he may have no sharply defined idea that such a use 'goes beyond experience'. I have found, however, one place where Kant says explicitly that a transcendental use is one going beyond the limits of experience (A 296 = B 352-3). This seems definitely to show that here 'transcendental' is equivalent to 'transcendent'; but even in this passage Kant avoids such identification by defining 'transcendent' in an unusual way. A principle is said to be 'transcendent', not if it merely goes beyond the limits of experience, but if it takes away these limits, or commands us to transgress them. For 'transcendent', see also A 781 = B 809.

³ See, for example, Kinkel, in his introduction to Kant's *Logik* (*Phil. Bib.* 43, p. xvi). This seems to rest partly on the view that Formal Logic studies only analytic judgements and partly on the view that analytic judgements have no object. Both of these views are, I believe, false.

take into account the matter of thought, Transcendental Logic could, at the best, be only a part of such a general logic and not the whole. Furthermore Transcendental Logic is mainly concerned with metaphysical questions, and in spite of views to the contrary I cannot see any advantage to be gained by ignoring the distinction between logical and metaphysical enquiries. It is no part of the task of logic to prove that every event must have a cause, and there is much in Kant's Transcendental Logic which can have no place whatever in general logic.

The most we can say is that Kant's doctrines call for a reconsideration of the nature of Formal Logic, and suggest the possibility of a more philosophic and less formal, but still general, logic, in which some Critical theories might find a place. He professes to show, for example, that there is an element of synthesis present in all judgements, and that this element of synthesis is necessary for all knowledge of objects. If these theories were accepted, we might say that any logic which ignored them was condemned to superficiality; but to say this is very far from saying either that the *Kritik of Pure Reason* can be a substitute for general logic or that it can be wholly absorbed into a general logic. It is also very far from saying that the doctrines of Formal Logic ought to be abandoned.

§ 6. *Divisions of Transcendental Logic*

Transcendental Logic isolates understanding, as Transcendental Aesthetic isolated sensibility.¹ This isolation or abstraction is, however, less likely to mislead us, because of what has gone before. We have to bear in mind—though this will become clearer as we advance—that the use of such *a priori* cognitions as are derived from thought is possible only on the condition that objects are given to us in intuition.²

¹ A 62 = B 87; A 22 = B 36.

² This is not obvious at first sight, and Kant always recognises that there is a claim in pure thought to go beyond objects of sense. He rejects this claim on the ground that such thinking is, for human beings, empty and meaningless.

Transcendental Logic, like Formal Logic, is divided into a Doctrine of Elements and a Doctrine of Method.

The Transcendental Doctrine of Method determines the formal conditions of a complete *system* of pure reason.¹

The Transcendental Doctrine of Elements is divided into a Transcendental Analytic and a Transcendental Dialectic, in this respect also following the divisions of Formal Logic.

The Transcendental Analytic analyses out of our whole *a priori* knowledge the elements which belong to pure understanding—the elements belonging to pure intuition being already determined.² In this respect it is parallel to the Analytic of Formal Logic, which analysed the whole business of thought (so far as that is formal) into its elements.³

The Transcendental Analytic will establish the categories and principles without which no object can be thought. It determines positively the conditions under which any and every object of knowledge must necessarily be *thought*, if it is to be an object; just as the Transcendental Aesthetic established the conditions (the forms of sensibility) under which any and every object must be *given*, if it is to be an object.

If this claim is justified, any professed cognition inconsistent with the Principles of the Transcendental Analytic would have no reference to any object, and would therefore have no truth—for truth is always the correspondence of thought with its object. Hence the Transcendental Analytic is a logic of truth.

We are, however, tempted to extend the use of these Principles beyond the limits of sensuous experience. We forget that formal principles derived from the understanding, though they must apply to any object which we can think, require this object to be given to sense: they cannot produce an object out of themselves. Because we forget this, we apply, for example,

¹ A 707-8 = B 735-6. The *Kritik* itself is not to be regarded as such a system; A 14 = B 28, A 81-2 = B 107.

² A 64 = B 89. Kant himself says that the Transcendental Analytic analyses our whole *a priori* knowledge into the elements which belong to pure understanding; but this seems a less exact statement, although it gives a better parallel.

³ A 60 = B 84.

the pure concept of substance to supposed objects which are not, and perhaps cannot be, given to our senses.¹

In doing so, we cease to use our *a priori* principles as a canon, or *conditio sine qua non*, by which to criticise our empirical judgements about experienced objects. We use them instead as an organon or tool for extending our knowledge to objects given in no experience. This misuse of pure understanding is dialectical, and is a source of illusion.

The Transcendental Dialectic is a criticism of this dialectical illusion, of this misuse of pure understanding or pure reason beyond the limits of what is given to sensuous experience. As such it is a criticism of rationalist metaphysics.

The dialectical error in Formal Logic, it should be noted, is to use the formal principles of logic as if they gave us information about any kind of object.² The dialectical error in Transcendental Logic is to use the Principles of Transcendental Logic as if they gave us information about non-sensible objects.

§ 7. Kant's 'Architectonic'

It is a common criticism of Kant that he attempts to force the contents of the *Kritik* into an artificial and external framework borrowed from Formal Logic. This general plan or framework is described as Kant's 'architectonic', and his love of architectonic is alleged to distort his thinking.

I believe this contention to be grossly exaggerated, at any rate as regards the Analytic, but here I wish only to call attention to the fact that Kant is very far from making the divisions of Transcendental Logic follow those of Formal Logic in any

¹ Compare A 96. Kant says, in A 63 = B 87-8, that to do this is to make a material use of merely formal principles of pure understanding. Here again he seems to identify the matter or content of thought with its objects (see Chapter IX § 4). Yet it must be remembered that although pure concepts have as their content or matter the form of thought, they require a further matter derived from intuition if they are to have objective validity.

² This is what Kant believed Leibniz to have done. See the Amphiboly of the Concepts of Reflexion, A 260 = B 316 ff.

slavish manner. On the contrary, there are marked divergences between the divisions of the two logics, and these are due to the differences in the nature of the problems dealt with in these sciences.

In the Transcendental Analytic there are two divisions: (1) The Analytic of Concepts and (2) the Analytic of Principles (called also the Transcendental Doctrine of Judgement). The first of these deals with the pure concepts of the understanding, the second with the Principles based upon these concepts. We have already seen, and we shall see more clearly in the sequel, that these two divisions are forced upon Kant by the nature of his subject-matter. They are indeed parallel to the two divisions in the Analytic of Formal Logic which deal with concepts and judgements, but they perform very different functions;¹ nor is there anything artificial or surprising in the fact that both Formal and Transcendental Logic should deal separately with concepts and with judgements.

The divergences in the division of the two logics are of greater importance than the similarities.

The Analytic of Principles has, as its First Part, a chapter on the Schematism of the Categories. There is nothing corresponding to this in Formal Logic, as Kant himself points out.² How it can be ascribed to the artificial influence of Kant's 'logical architectonic', I fail to understand.

Furthermore, the Analytic of Formal Logic contains three divisions. It is an analytic of concepts, judgements, and inferences.³ The third division is concerned chiefly with the syllogism and gives us a canon of reason. *There is nothing corresponding to this third division in the Transcendental Analytic.*

✓ In Formal Logic the two divisions are concerned respectively with the form of all concepts and the form of all judgements. In Transcendental Logic these two divisions give us firstly, a list of the categories and a general justification of their objective validity; and, secondly, a demonstration of the separate *a priori* judgements or principles based upon each of the categories.

¹ A 135-6 = B 174-5.

² A 130 = B 169. The powers concerned are understanding (in the narrower sense), judgement, and reason.

The cause of this difference is clear enough. The Analytic of Formal Logic, since it is concerned with the form, and not with the matter, of thought, can give an account of what reasoning must be if it is to be formally correct. The Transcendental Analytic is not concerned with formal validity, but with truth. There is an objectively valid—or, as Kant calls it, true—use of *understanding* and *judgement* as sources of *a priori* knowledge, and of this the Transcendental Analytic can supply a canon; that is, it can show that the categories which originate in the understanding are pure concepts without which no objects can be thought, and that their application to objects of experience must be valid. There is no such objectively valid use of *reason*;¹ for the Ideas which have their origin in reason, and by means of which reason attempts to extend our knowledge beyond the limits of possible experience, have no relation to any object which can be given as congruent with them.² Hence the transcendental account of reason is not to be found in the Transcendental Analytic, which is a logic of truth, but in the Transcendental Dialectic, which is a logic of illusion.³

The main divisions of Transcendental Logic are not distorted to fit an artificial framework derived from Formal Logic.⁴ They are, on the contrary, determined by the nature of what professes to be synthetic *a priori* knowledge.

§ 8. *The Transcendental Analytic*

The Transcendental Analytic, as we have seen, seeks to determine what, if any, are the elements in our *a priori* knowledge which ought to be attributed to pure understanding.⁵

As understanding is, in the first instance, a power of con-

¹ This is called a transcendental use; A 131 = B 170. Compare § 4 above.

² Compare A 336 = B 393.

³ A 131 = B 170. It may also be observed that the division of the Transcendental Dialectic into two books, the first of which deals with the concepts of pure reason and the second with the dialectical inferences of pure reason, is not determined by the framework of Formal Logic.

⁴ Adickes in his earliest book—*Kants Systematik*—carries this theory to absurdity.

⁵ A 64 = B 89.